SUPPLEMENT No. 3,

1916,

RELATING TO

MEDITERRANEAN PILOT, VOL. III.

FOURTH EDITION,

1908.

(CORRECTED TO 9TH NOVEMBER, 1916.)

PUBLISHED BY ORDER OF THE LORDS COMMISSIONERS OF THE ADMIRALTY.

LONDON:
PRINTED FOR THE HYDROGRAPHIC DEPARTMENT, ADMIRALTY,
UNDER THE AUTHORITY OF HIS MAJESTY'S STATIONERY OFFICE,
BY TAYLOR, GARNETT, EVANS, & CO., LTD.,
ALSO AT MANCHESTER AND REDDISH;
AND TO BE OBTAINED FROM
J. D. POTTER, AGENT FOR THE SALE OF ADMIRALTY CHARTS,
145, MINORIES, E.C.

1916.

Gratis to Purchasers of Mediterranean Pilot, Vol. III.

CAUTION WHEN APPROACHING BRITISH PORTS.

(To be inserted inside cover of all Sailing Directions.)

PART I.—CLOSING OF PORTS.

(1) My Lords Commissioners of the Admiralty having taken into consideration the fact that it may be necessary to forbid all entrance to certain ports of the Empire, this is to give Notice that on approaching the shores of the United Kingdom, or any port of the British Empire, a sharp lookout should be kept for the signals described in the following paragraph, and for the vessels mentioned in paragraph (4), Part II., of this Notice, and the distinguishing and other signals made by them. In the event of such signals being displayed, the port should be approached with great caution, as it may be apprehended that obstructions may exist.

(2) If entrance to a port is prohibited, three *red* vertical lights by night, or three *red* vertical balls by day, will be exhibited in some conspicuous position in or near to its approach, which signals will also be shown by the vessels indicated in paragraph (4), Part II., of this Notice.

If these signals are displayed, vessels must either proceed to the position marked "Examination Anchorage" on the Admiralty Charts and anchor there, or keep the sea.

PART II.—EXAMINATION SERVICE.

(3) Under certain circumstances, it may become necessary to take special measures to examine vessels desiring to enter the ports or localities at home or abroad, referred to in Notices to Mariners No. 1 of 1916 and subsequent years.

(4) In such case, vessels carrying the distinguishing flags or lights mentioned in paragraph (6) will be charged with the duty of examining ships which desire to enter the ports and of allotting positions in which they shall anchor. If Government vessels, or vessels belonging to the local port authority, are found patrolling in the offing, merchant vessels are advised to communicate with such vessels with a view to obtaining information as to the course on which they should approach the Examination Anchorage. Such communication will not be necessary in cases where the pilot on board has already received this information from the local authorities.

(5) As the institution of the Examination Service at any port will never be publicly advertised, especial care should be taken in approaching the ports, by day or night, to keep a sharp lookout for any vessel carrying the flags or lights mentioned in paragraph (6), and to be ready to "bring to" at once when hailed by her or warned by the firing of a gun or sound rocket.

In entering by night serious delay and risk will be avoided if four efficient all round lamps, two *red* and two *white*, are kept available for use.

(6) By day the distinguishing flags of the Examination Steamer will be a special flag (white and red horizontal surrounded by a blue border) and a blue ensign.

Also, three *red* vertical balls if the port is closed.

By night the steamer will carry: (*a*) Three *red* vertical lights if the port is closed; (*b*) three *white* vertical lights if the port is open.

The above lights will be carried in addition to the ordinary navigation lights, and will show an unbroken light around the horizon.

(7) Masters are warned that, when approaching a British port where the Examination Service is in force, they must have the distinguishing signal of their vessel ready to hoist immediately the Examination Steamer makes the signal.

(8) Masters are warned that, before attempting to enter any of these ports when the Examination Service is in force, they must in their own interests strictly obey all instructions as to entry given to them by the Examination Steamer. In the absence of any instructions from the Examination Steamer they must proceed to the position marked "Examination Anchorage" on the Admiralty Charts, and anchor there, or keep the sea.

Whilst at anchor in the Examination Anchorage, Masters are warned that they must not lower any boats (except to avoid accident), communicate with the shore, work cables, move the ship, or permit anyone to leave the ship, without permission from the Examination Steamer.

(9) In case of fog, Masters of vessels are enjoined to use the utmost care, and the Examination Anchorage itself should be approached with caution.

(10) Merchant vessels when approaching British ports are specially cautioned against making use of private signals of any description, either by day or night, the use of them will render a vessel liable to be fired on.

(11) The pilots attached to the ports will be acquainted with the regulations to be followed.

NOTICE.

HYDROGRAPHIC DEPARTMENT, ADMIRALTY.

The next Supplement to this book which may be published can be obtained on presentation of the coupon below.

Revised Supplement (3) to
MEDITERRANEAN PILOT, VOL. III.
1908.

3900

SUPPLEMENT No. 3,

1916,

RELATING TO

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145, MINORIES, E.C.

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Gratis to Purchasers of Mediterranean Pilot, Vol. III.

ADVERTISEMENT TO THE SUPPLEMENT No. 3.

This Supplement No. 3, compiled by Captain A. W. Torlesse, R.N., contains all the information received in the Hydrographic Department of the Admiralty relating to the Mediterranean Pilot, Vol. III., Fourth Edition, since its publication in 1908, and is derived from the Reports by Officers of His Majesty's Navy and Foreign Governments, and various other sources.

All details of lights and fog signals have been omitted; for these the Admiralty list of lights must be consulted.

The principal dimensions of all dry docks, patent slips, &c., the available depths into the principal ports, a list giving the numbers and titles of all charts or plans published or withdrawn from publication since the issue of Mediterranean Pilot, Vol. III., Fourth Edition, in 1908, and the places suitable for magnetic observations, included in Mediterranean Pilot, Vol. III., have been inserted as Appendices.

It must be remembered that during the present hostilities, many of the aids to navigation mentioned in Mediterranean Pilot, Vol. III., and this Supplement, are discontinued or altered.

Information received since the issue of Supplement No. 2 in 1914 has been indicated as follows:—

1. Entirely new paragraphs, by a black line in margin.
2. Alterations or small additions are underlined.
3. Paragraphs omitted, by a bracket extending across the page.
4. Portions of paragraphs omitted, by a short bracket.

Supplement No. 2, 1914, and all Notices to Mariners relating to the above work, up to and including No. 699, of 1916, are hereby cancelled.

J. F. PARRY,
Rear Admiral
and Hydrographer.

Hydrographic Department,
Admiralty, London,
5th December, 1916.

(3900) Wt. 43157/387 (112). 3,000.—1/17. T.G.E.

For all details of the Lights and Fog Signals which are included in this work, seamen should consult the Admiralty List of Lights, Part V. This List is published early in every year, corrected to the preceding 31st December.

The existence of this Supplement is to be entered on the opening page of the Mediterranean Pilot, Vol. III. The information is to be carefully considered.

One copy is to be retained intact for reference, notations referring to it being made in the pages of the Mediterranean Pilot, Vol. III.; the other copy may be cut up, if considered desirable, the slips being pasted in the volume at the appropriate place.

SUPPLEMENT No. 3,

1916,

RELATING TO THE

MEDITERRANEAN PILOT, VOL. III.

FOURTH EDITION,

1908.

The several paragraphs follow the order of the paging of the Mediterranean Pilot, Vol. III.; the pages referred to are given herein in the text.

(*All bearings are Magnetic.*)

Page iii.—Advertisement.—First paragraph: *For* "Mediterranean Pilot, Vol. IV.," *read* "Mediterranean Pilot, Vol. III."

Page xxi.—General navigation.—*Add* new section 15:—

15. *Concise Rules for Revolving Storms:*—

1. Revolving storms are so named because the wind in these storms revolves round an area of low pressure situated in the centre. They have also local names, and are termed hurricanes in the West Indies and South Pacific ocean; cyclones in the Indian ocean, Bay of Bengal, and Arabian sea; and typhoons in the China sea.

2. In these storms the wind always revolves the same way in the same part of the world, that is, against the movement of the hands of a watch in the northern hemisphere, and with the hands of a watch in the southern hemisphere. The wind does not revolve in circles, but has a spiral movement, inwards, towards the centre.

Page xxi. *continued.*

3. Revolving storms have also, as a general rule, a progressive movement. Within the tropics they usually move from east to west at first, and then curve towards the pole of the hemisphere in which the storm is generated, and afterwards move from west to east.

4. The track which the centre of the storm takes is called the path of the storm, and the portion of the storm-field on the right of the path is known as the right-hand semicircle, and that on the left as the left-hand semicircle of the storm.

5. In the right-hand semicircle, if the observer be stationary, the wind will always shift to the right, and in the left-hand semicircle to the left. This law holds good in both hemispheres.

6. If a vessel be so situated in a storm that running before the wind the path of the advancing storm will be crossed, this is considered to be the dangerous semicircle. This will always be the right-hand semicircle in the northern hemisphere, and the left-hand in the southern.

7. These storms are most frequent in the northern hemisphere from July to November, and in the southern hemisphere from December to May. In the Bay of Bengal and Arabian sea they, however, occur most frequently about the time of the change of the monsoon.

8. The area over which revolving storms have been known to extend varies in diameter from 20 miles to some hundreds of miles, and their rate of movement in the West Indies averages about 300 miles a day; in the China sea, Bay of Bengal, and Arabian sea about 200 miles a day; and in the Indian ocean from 0 to 200 miles a day, the more stationary storms occurring at the beginning and end of the hurricane season.

9. The indications of the approach of a revolving storm are (1) an unsteady barometer, or even a cessation in the diurnal range, which is constant in settled weather; (2) a heavy swell not caused by the wind then blowing; (3) an ugly, threatening appearance of the sky.

10. In order to judge what is the best way to act if there is reason to believe a storm is approaching, the seaman requires to know (*a*) in which direction the centre of the storm is situated, (*b*) in which semicircle the ship is situated.

11. As these points cannot be determined if a vessel is moving with any speed through the water, the first proceeding should be to "stop" or "heave to," and, as it is always best to assume, at first, that the vessel may be in the dangerous semicircle, she should be hove to on the starboard tack in the northern hemisphere, and on the port tack in the southern.

12. If an observer faces the wind the centre of the storm will be from 12 to 8 points on his right hand in the northern hemisphere, and on his left hand in the southern hemisphere; 12 points when the storm begins; about 10 points when the barometer has fallen three-tenths

Page xxi. *continued.*

of an inch, and about 8 points when it has fallen six-tenths of an inch or upwards.

13. If the wind shifts to the right the vessel is in the right-hand semicircle, if to the left in the left-hand semicircle, and, if the wind is steady in direction, but increasing in force, she is in the direct path of the storm.

14. If the seaman has reason to think that his vessel is in the direct path of the storm he should run with the wind on the starboard quarter in the northern, and on the port quarter in the southern, hemisphere until the barometer has ceased falling. If she is in the right-hand semicircle in the northern hemisphere she should remain hove to on the starboard tack, but if in the southern hemisphere run with the wind on the port quarter; if she is in the left-hand semicircle in the northern hemisphere she should run with the wind on the starboard quarter, but if in the southern hemisphere remain hove to on the port tack.

15. Should a vessel not have sufficient room to run when in the least dangerous semicircle, she should heave to on the port tack in the northern, and on the starboard tack in the southern, hemisphere.

16. If in a harbour, or at anchor, the seaman should be just as careful in watching the shifting of the wind and ascertaining the direction of the centre, as by so doing he will be able to tell on which side of the path of the storm he is situated, and be able to act according to circumstances.

17. Should the centre of a storm pass over a vessel, the wind, after blowing furiously in one direction, ceases for a time, and then blows with equal fury from the opposite direction. This makes a confused pyramidal sea, which is especially dangerous.

CHAPTER I.

Page 9.—*Cancel* "**Regulations for anchorage** of foreign vessels in Italian ports," and *substitute*:—

Italian ports.—Regulations.—The following regulations for foreign vessels of war anchoring in Italian ports in time of peace have been issued by the Italian Government.

1. Foreign vessels of war cannot remain at fortified ports for a period of more than eight days, and not more than three vessels of the same flag may assemble at these anchorages, unless formal permission, which must be applied for through a diplomatic channel, has been received.

2. Venice, and the anchorage in the lagoons, is the only fortified

Page 9 continued.

Italian naval station in the area included in this volume, and it, as well as Ancona, together with any anchorage where an Italian man-of-war, capable of returning salutes, is lying, is to be saluted by foreign vessels of war which are in a position to do so.

3. Foreign vessels of war anchored in any of the above-mentioned places must leave at any time if requested, and at the expiration of the period stated in Article I.

4. The naval authorities will probably send an officer to point out the anchorage assigned to the vessel, but in the event of this not being done anchorage may be taken up as convenient.

5. Should pratique be refused, the medical officer of the vessel should be sent to the Local Sanitary Office to ascertain the treatment to which the vessel or vessels are to be subjected, and all Port Regulations must be carried out.

6. No surveying or hydrographic operations are to be carried on without special permission from the Government, and the following are also forbidden within the territorial waters: (*a*) The execution of a death sentence. (*b*) Vessels carrying on hostilities with each other, or bringing prizes or searching vessels. (*c*) Landing to execute manœuvres on, or gun practice within gun range from the coasts, without special permission.

7. With the exception of officers and petty officers the crew of a foreign vessel must always land unarmed, and should it be wished to send an armed funeral party, permission must be obtained.

Regulations with regard to Vessels approaching Fortified Ports in a State of War.

1. The military commander of a fortified port in a state of war may, if the circumstances so require, order all foreign men-of-war as well as foreign and Italian merchant vessels, anchored within the fortified zone, to proceed to sea or move elsewhere, leaving the waters adjacent to the port free for a distance of 10 miles. Vessels receiving such directions are bound to move within a maximum period of 12 hours from the time the order is delivered on board their ships. The military commander will provide tugs for such vessels as are not in a state to

Page 9 continued.

put to sea within the limits of time specified, and will conduct them to some other place, according to the exigencies of the port. In the event of a refusal to leave the port the military commander may have recourse to such means as the necessities and urgency of the case may require.

2. Any vessel which approaches during the day any fortified port in a state of war, either for the purpose of approaching it or merely because her track leads within the 10-mile limit, is to take steps to ensure her recognition, and is not to proceed towards the anchorage within the fortified port without having previously received the permission of the military commander through one of the semaphore stations included in the list given in Article 10.

3. In order to obtain permission to enter, vessels must first be completely recognised. In which case they may proceed towards the space comprised within the limits specified in the list given in Article 10, but must stop when within sight of the defence works, and keep flying in an elevated position the national flag and the ship's name in the International code, to which is to be added the Pilot flag and the International code signal P.D., "I request permission to enter." Permission may also be asked by wireless, but this does relieve a vessel of the necessity of stopping on arriving at the limits hereinafter described, and waiting for a reply.

4. The military commander will decide whether or not permission to enter is to be given to vessels which have complied with the foregoing article, and is to take into consideration that the presence of such vessel within the port is not to be allowed to subsequently interfere with or obstruct its means of defence.

5. The semaphore station which shall have received, by means of wireless or other signals, the request to enter, will give immediate notice to the military commander, notifying him of such information as the officer in charge of the station may deem useful, such as the name of the vessel, nationality, distance, bearing, &c.

If the military commander does not consider it convenient for authorisation of entry to be given, he will cause the signal U.S.X. to be made:—"Sorry I am unable to comply with your request."

The above reply may also be sent by wireless if the request has been made in a similar way.

If consent is given, a pilot will be sent. An official will also be sent in the case of neutral men-of-war or suspected vessels, such official being specially charged with the duties of recognising the vessel by inspection and by boarding her. In such cases the inspecting officer is given authority to give or refuse leave to enter, according to the results of his visit. If the foregoing visit cannot be made on account of the state of the sea, right of entry will be refused to neutral men-of-war or to foreign or Italian merchant vessels, unless they are in obvious danger.

Page 9 continued.

Under the authorisation of the military commander a special system of signals will be drawn up, whereby the inspecting officer or the pilot may send through the semaphore station such information as may be useful or urgent. One of these signals is that the vessel has been subjected to a visit, and another that the pilot has gone aboard, but the signal indicating that a vessel has received permission to enter and proceed to her anchorage, which signal varies from day to day, will be hoisted without fail in an elevated position, from which it is easily visible to semaphore stations and defence vessels.

6. By night all entry into maritime ports is absolutely forbidden. Permission is only granted to Italian men-of-war and to vessels of an allied Power under the following circumstances: —

(*a*) Pursuit.

(*b*) Grave damage to the hull or vital parts.

(*c*) Stress of weather.

7. During the hours of night, the movements of all boats of foreign men-of-war, or of Italian or foreign merchant vessels which happen to be within a maritime port in a state of war, is absolutely forbidden, and they are not to communicate with the shore without previous permission from the military commander. In cases of urgency, when a vessel is under the necessity of communicating with the shore without having the necessary permission from the miltary commander, the means to do so may be provided on the conventional signal of requesting permission to do so being made.

Any other form of signalling is prohibited.

The aforementioned vessels may communicate with the shore during the hours of daylight by means of their boats, but these must follow the most direct track from their vessels to such landing place as they may have been instructed to use in such cases.

8. In the event of vessels contravening the foregoing regulations, the requisite signals from the semaphore stations will be hoisted and a blank shot will be fired from one of the batteries charged with such duties. In any case where such warning may prove ineffective, five minutes after the blank charge a ball shot will be fired about half a cable ahead of the vessel's bows. If, after this latter measure, the vessel still shows reluctance to obey the regulations, she will be fired upon and all means taken to ensure her obedience. In urgent cases the firing of a blank shot may be omitted.

9. For the purposes of the examination service the change of hours of night into hours of day, and vice versâ, is fixed in all places at sunrise and sunset.

10. The following is a list of fortified ports and of such other places within the limits of this publication as are not to be approached without permission when in a state of war, as well as a list of the coastal limits of the areas of water comprised within them, anchorages, and

Page 9 continued.

the semaphore stations to which the request for permission to approach must be made.

Locality.	Coastal Limits.	Anchorages.	Semaphore Stations with which vessels must communicate.
Brindisi	From Casa l'Abate to Vacito tower.	Brindisi	Brindisi.
Venice	From Port Cortellazzo to Port Fossone.	Chioggia Venice Venetian lagoons	Sottomarina. Pilot tower. San Nicolo di Lido.

Pilots.—Italy.—Pilot boats are painted black with a white stripe, and the word "Pilota" in white on bows and stern, with, in the case of a sailing boat, the letter "P." on each sail, and in a steamer on each side of her funnel. They also carry, in day time, a square flag—blue, white, blue, horizontally.

Vessels requiring pilots by day should either

(*a*) Hoist the national flag on a white ground;

(*b*) Make the signal P.T.; or

(*c*) Hoist flag S.

And by night

(*a*) Burn a blue light; or

(*b*) Show a white light occulted at short intervals.

Pilots are forbidden to take vessels in tow.

Italian coasts.—Submarine vessels.—Submarine vessels, when practising submerged, are always escorted by a vessel, usually a torpedo boat, carrying a red square flag at the masthead.

Vessels sighting this escort vessel must keep a lookout for International code signals which she may hoist to indicate that manœuvres are in progress, in order that they may avoid the risk of collision with a submarine vessel. In case of urgency this signal may be accompanied by firing a gun.

It is also necessary to observe carefully the surface of the sea, as the presence of a submarine vessel is often indicated by the end of the periscope emerging a foot or two above the surface. In ordinary practices the periscope is surmounted by a staff 10 feet in height with a small triangular metal flag.

Submarine vessels practise daily off the coast of Italy in the approaches to Venice. The semaphores near the area in which the submarines practise here hoist a square red flag during its continuance.

Page 9 continued.

Austria-Hungary.—Submarine vessels.—When submarine vessels are practising off the coasts of Austria-Hungary, an escort vessel, carrying a red square flag at the fore topmast head, is stationed in their vicinity.

This escort vessel should be passed by other vessels at a distance of at least one mile; should it be impossible to keep outside this distance, vessels approaching must proceed at slow speed until again a mile distant from the escort vessel, keeping a good lookout, and immediately obeying any signals made by her.

Submarine vessels are frequently practising in the Gulf of Quarnero, off the west coast of Istria, and particularly in the vicinity of Pola.

Regulation.—Dredgers and other craft engaged in works in harbours, or in much frequented waters, on the coasts of Austria-Hungary, where liable to be affected by the wash of passing steam vessels, carry the International code signal M.F., and all steam vessels in the vicinity must reduce their speed, so as to avoid damage or disturbance of the work. Infringements of this order are punishable with fines up to 200 kronen, or 14 days' arrest, besides paying compensation for any damage occasioned.

Austrian ports.—Regulation.—All merchant vessels must fly their national ensigns from sunrise to sunset when in Austrian and Hungarian territorial waters, except when in the following localities, where this regulation is only enforced on entering a harbour:—

On the coast of the mainland from Grado to Parenzo, and from Nera point to Zara Vecchia, also from Trau to Molonta; on the coasts of Veglia island and of that part of Cherso situated northward of Cherso village, also on the coasts of all islands southward of Murvica island; in Zara channel southward of the line Melada-Nona.

Austrian ports. — Harbour regulations. — Every merchant vessel entering a port by day must hoist her national flag and keep it flying until the completion of the Sanitary and Port official inspection.

The prescribed regulations for lights at night must be observed.

Vessels are not permitted to anchor at the entrance to the port, except in cases of *force majeure*.

Upon arrival, no communication is permitted with the shore or other vessels until pratique has been received, unless the circumstances and conditions come under the list of exceptions laid down in the Port and Sanitary regulations. Where no such exceptional circumstances prevail, the captain of a vessel must, immediately on arrival, report himself to the Port authority, subject to having passed the sanitary examination.

The captains of vessels having inflammable or explosive materials on board must report the fact.

Page 9 continued.

An anchorage or berth is allotted to a vessel after she has passed the Sanitary authorities, and the captain may not move or shift from the place assigned without permission. Vessels ordered by the Port authorities to leave their berths must immediately comply.

A vessel, moored within the limits of a harbour, must allow another vessel to lie alongside, if so ordered by the Port authorities. In specialised ports, square-rigged vessels or steam vessels must not moor or unmoor, make fast, or move, without the services of a local pilot.

Obedience to the Port authorities is compulsory in all matters relative to sanitary and general conditions.

Vessels secured to buoys must have out as much cable as the force of the wind requires; and in stormy weather not less than 17 fathoms.

In heavy weather, a spring must not be taken to any buoy to which another vessel is moored.

Vessels moored to stakes and pillars without rings must take several turns with the hawser round the same, and the methods of mooring are to be such as the local circumstances and the Port authorities' regulations require.

Any spring hawser must be let go when a vessel is passing.

Vessels which have not the requisite facilities for mooring will not be allotted a place alongside the quays.

Jib-booms and flying jib-booms must be rigged in, and yards braced up or topped, when so ordered by the Port authorities. Hawsers must not be taken to any places not intended for that purpose, and no obstructions may be caused by cables, hawsers, &c.

If a vessel has parted from, or is dragging her mooring, or if a vessel is being launched, vessels in her vicinity must temporarily move out of the way.

Naked lights are forbidden on board vessels lying in tiers alongside quays or canals, and permission must be obtained to light a fire in the hold for the purpose of fumigation.

Lading or unlading explosives or inflammables must be carried out under the regulations regarding the same, and during these operations, smoking on board the vessel, or in her immediate vicinity on shore, is prohibited.

Vessels, with stores of gunpowder and arms on board for their own use, proceed to the places reserved for such vessels before going alongside the quays; these stores must be placed where authorised, and can only be taken on board again after the vessel has left the wharves and is about to sail.

Cargoes must be discharged or taken on board with all possible speed, and may not remain on the wharves at night, except in unusual circumstances, when the consent of the Port authorities may be obtained, subject to the Custom's regulations.

Page 9 continued.

Should a vessel, when in the vicinity of the harbour, lose anything overboard, and be unable to recover it, she must immediately report the loss, in order to obtain permission for the necessary salvage operations, or to secure the services of the Port authorities.

The captain of a vessel must give 24 hours' notice of his intended sailing, and report as to the dismissal or absence without leave of any of his crew.

Page 10.—Storm signals.—*Cancel* paragraphs 1, 2, and 3, and last line of section, and *substitute*:—

Day signal.	Night signal.	Signification.
A cone, point upwards	A *red* light over two *white* lights, vertical.	Gale probable, commencing from north-west.
Two cones, vertical, points upwards.	Ditto	Gale probable, commencing from north-east.
Two cones, vertical, points downwards.	Two *white* lights over a *red* light, vertical.	Gale probable, commencing from south-east.
A cone, point downwards	Ditto	Gale probable, commencing from south-west.
Two cones, vertical, bases together.	A *red* light between two *white* lights, vertical.	Gale probable, direction of wind uncertain.

Wireless telegraph weather reports.—The wireless telegraph stations on the coasts of Austria-Hungary, which are open to the public, send out weather reports in the following manner:—

The R. and I. Maritime observatory at Trieste composes daily, including Sundays and festival days, a meteorological telegram of 20 words. This contains information as to the weather of Trieste, Porer, Fiume, Lissa, Ostro point, Venice, Brindisi, Palermo, Corfu, and Alexandria, at 7h. a.m. in two groups each of five figures, which indicate, as shown below, the height of the barometer, the direction and force of the wind, amount of cloud, &c., temperature, and state of the sea. These meteorological telegrams are transmitted at 9h. a.m. to the coast stations of Castelnuovo, Sebenico, and Trieste, and are forwarded by these stations during the next 24 hours to vessels which are in wireless telegraphic communication with them and desire the telegrams, unaltered. No deciphering is made at the coast stations. A coastal fee of 4 kroner is charged against the vessel called up.

The first three figures in the first group give the height of the barometer at 0° C. and at the sea level; the number 700 being omitted, 745·8 mm. is expressed by 458, and 776·3 mm. by 763.

The last two figures in the first group give the direction of the wind, thus:—02 = N.N.E., 04 = N.E., 06 = E.N.E., 08 = East, 10 = E.S.E., 12 = S.E., 14 = S.S.E., 16 = South, 18 = S.S.W., 20 = S.W., 22 = W.S.W., 24 = West, 26 = W.N.W., 28 = N.W., 30 = N.N.W., 32 = North.

Page 10 continued.

Calm is expressed by 00.

The first figure of the second group gives the force of the wind, calm = 0, thence increasing to 10.

The second figure of the second group shows thus: 0 = clear, 1 = quarter overcast, 2 = half overcast, 3 = three-quarters overcast, 4 = entirely overcast, 5 = rain, 6 = snow, 7 = mist, 8 = fog, 9 = storm.

The third and fourth figures of the second group give the temperature of the air by the Celsius scale. When the temperature is below 10°, the first figure will be 0, thus: 09 = 9°. Negative temperatures have 50 added to them, thus: 56 = −6°, 61 = −11°.

The fifth figure of the second group gives the state of the sea, from 0 = calm to 9 = very heavy sea.

Example of a weather report, 11th November, 1913:—

64700	08130
64116	44164
64716	14144
66412	31173
63332	12153
65632	14100
65216	34133
00020	28131
67000	00130
66828	32191

which, deciphered by the system given above, means:—

Place.	Barometer.	Wind.	F'ce.	Cloud, &c.	Temperature.	State of Sea.
Trieste	764·7 mm.	Calm	0	Fog	+13°C.	Smooth.
Porer	764·1 mm.	South	4	Overcast	+16°C.	Moderate.
Fiume	764·7 mm.	South	1	Overcast	+14°C.	Moderate.
Lissa	766·4 mm.	S.E.	3	¼ overcast	+17°C.	Slight to moderate.
Ostro point	766·3 mm.	North	1	½ overcast	+15°C.	Slight to moderate.
Venice	765·6 mm.	North	1	Overcast	+10°C.	Smooth.
Brindisi	765·2 mm.	South	3	Overcast	+13°C.	Slight to moderate.
Palermo	—	S.W.	2	Fog	+13°C.	Slight.
Corfu	767·0 mm.	Calm	0	Clear	+13°C.	Smooth.
Alexandria	766·8 mm.	N.W.	3	½ overcast	+19°C.	Slight.

Signals of distress as follows are made from certain Italian lighthouses and light-vessels:—

(1) A black flag with a white ball in centre by day or a *white* flare by night - - Doctor needed.

(2) A black and white chequered flag by day or a *red* followed by a *white* flare by night - - - - - - - - - Apparatus damaged.

(3) A black ball by day or a *red* flare by night - - - - - - - - - Water and provisions required.

Page 10 continued.

(4) A black flag with white ball in centre above a black ball by day or a *white* followed by a *red* flare by night - - Shipwreck.

In the case of light-vessels a *yellow* flare is substituted for the white. These night signals are repeated every ten minutes until answered.

Barometer.—The graduation of barometric scales in millibars having now been largely introduced, the accompanying diagram is inserted to enable the mariner to convert millibars into inches and vice versa:—

Page 18.—Currents.—The following notes on the currents of the Adriatic have been published by the Italian Hydrographic Office:—

Three kinds of currents have been observed in the Adriatic, namely, a regular inshore current, a tidal current with periodic variations, and a current produced by the action of the winds.

The influence of the rivers which flow into the Adriatic makes itself felt to a certain extent after the period of heaviest rain, but it is always local.

The inshore current enters the Adriatic to the north of Corfu, along the Albanian coast, and circulates round the Adriatic. Its approximate breadth is 20 to 30 miles along the eastern coast, about 10 miles in the northern part of the western coast, and about 6 miles in its southern part.

Off the Melada and Lagosta islands, a branch of the north-west-going current flows out in the direction of the Pelagosa islands and Capo Testa del Gargano, where it unites with the south-easterly current along the western coast, which it considerably increases in strength. Another rather weaker branch turns off opposite the Quarnero, and also flows towards the western coast, where it unites with the south-east-going stream.

The rate of the north-westerly current under ordinary conditions is three-tenths of a knot in the southern and half a knot in the northern part.

The inshore current cannot be directly observed along the greater part of the eastern coast, because, under the influence of the tides, it alternates between a north-west and south-east direction, and is not noticeable except by the extent to which vessels feel its influence during a rising and falling tide.

The tidal currents, under ordinary conditions, alternate regularly twice in the day. These currents are hardly felt in the southern portion of the Adriatic, but towards the north they increase with the rise of the tide, and attain a rate of half a knot. From the above it is

Page 18 continued.

obvious that a flood tide coming from the south strengthens the north-westerly current and weakens the south-easterly current on the eastern coast. Inversely, an ebb stream weakens the north-west-going current and strengthens the south-east-going. Under ordinary conditions, therefore, there are two currents on the eastern coast, the stronger flowing to the north-west, alternated by a weaker flowing to the south-east, both of which might at first sight be mistaken for tidal currents since they change with the tide, but which are in reality the result of the combined action of the inshore and tidal currents. The south-eastern current of the eastern coast does not usually alter its direction, and the winds do no more than alter its rate. For the ordinary purposes of navigation, it is sufficient to regard these alternating currents as tidal streams, taking into account the influence produced by the inshore current.

The secondary current, which flows from Lagosta island towards Capo Testa del Gargano, has a variable rate of one to 1½ knots, and from recent observations it does not appear that this current is varied in its direction by the action of either tide or wind.

The currents produced by strong and persistent winds can influence the inshore and tidal currents so as to interfere with the regular change on the eastern and to completely reverse the south-east-going stream on the western, coast. Strong winds blowing in the direction of the currents greatly increase their velocity, the greatest rate being attained on the eastern shore with south-easterly winds and a rising tide, and on the western with a strong north-westerly wind and a falling tide. Under these circumstances the current will attain the rate of 3 knots.

On the eastern shore, ships may be driven 7 to 12 miles to the north-west during a day under ordinary conditions and 24 to 30 miles in a day during persistent south-easterly winds.

Page 34.—Variation of the compass.—*Cancel* section.

Page 35.—Buoyage and lights.—*Cancel* section, and *substitute*:—

Buoys and beacons.—Uniform systems.—Coasts of Italy.—The Italian Government has directed that all buoys, beacons, and seamarks on the coasts of the kingdom shall be painted according to the rule adopted by the Congress of St. Petersburg; buoys to be left on the port hand entering a port or channel will therefore be painted red, and those to be left on the starboard hand, entering, will be painted black. The new colouring will be applied gradually, and notice will be given when the colours are changed.

Coasts of Austria.—A system of marking has been adopted, but has only been, as yet, partly carried out; notice with regard to its

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completion will be given. The system is based on a combination of colour and shape; channels or fairways bounded by shallow water on both sides will be marked by red spar buoys on the starboard side, and black conical buoys on the port side, entering from seaward.

Beacons on the starboard side entering will also be painted red, and those on the port side black; where necessary, for the purpose of better distinction, beacons on the starboard side will be surmounted by a cone, and beacons on the port side by a cylinder.

Marks at seaward entrances to fairways will, if they are not already noticeable by conspicuous pile groups, light-buoys, &c., be surmounted by spherical cages.

Small shoals outside fairways will be marked by perches, some of which will be surmounted by spherical cages, or by spar buoys, surmounted by spherical cages.

Large shoals outside fairways will be marked by spar buoys or beacons surmounted thus:—In the middle of the shoal by a cylinder, placed vertically; on the north side of the shoal by two triangles, points upwards; on the south side of the shoal by two triangles, points downwards; on the east side of the shoal by two triangles, the upper one point upwards, and the lower one point downwards; and on the west side of the shoal by two triangles, the points of which are towards each other.

No rules have as yet been laid down for the marks surmounting buoys, beacons, &c., indicating shoals extending off-shore, or small banks close to the coast.

The coasts of Hungary, from Fiume to Maddelena cove, are steep, with deep water, and no system of indicating the few existing seamarks will be introduced.

Pilot vessels.—Lights.—The following regulations with regard to pilot vessels have been adopted by the Italian, Austrian, and Greek Governments:—

Pilot vessels, when engaged on their station on pilotage duty, shall not show the lights required for other vessels, but shall carry a *white* light at the masthead, visible all round the horizon, and shall also exhibit a flare-up light or flare-up lights at short intervals, which shall never exceed 15 minutes.

On the near approach of or to other vessels they shall have their side lights lighted, ready for use, and shall flash or show them at short intervals, to indicate the direction in which they are heading, but the *green* light should not be shown on the port side, nor the *red* light on the starboard side.

A pilot vessel, of such a class as to be obliged to go alongside a vessel to put a pilot on board, may show the *white* light instead of carrying it

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at the masthead, and may, instead of the coloured lights above mentioned, have at hand ready for use a lantern with a *green* glass on the one side and a *red* glass on the other, to be used as prescribed above.

A steam pilot vessel, exclusively employed for the service of pilots licensed or certified by any pilotage authority of the Committee of any pilotage district, when engaged on her station on pilotage duty and not at anchor shall, in addition to the lights required for all pilot boats, carry, at a distance of 8 feet below her *white* masthead light, a *red* light visible all round the horizon, and of such a character as to be visible on a dark night with a clear atmosphere at a distance of at least 2 miles, and also the coloured side lights required to be carried by vessels when under way.

When engaged on her station on pilotage duty and at anchor, she shall carry, in addition to the lights required for all pilot boats, the *red* light above mentioned, but not the coloured side light.

Pilot vessels, when not engaged on their station on pilotage duty, shall carry lights similar to other vessels of their tonnage.

Fishing vessels.—Lights.—Fishing vessels and fishing boats when under way, and not required by this article to carry or show the lights hereinafter specified, shall carry or show the lights prescribed for vessels of their tonnage under way.

(*a*) Open boats, by which is to be understood boats not protected from the entry of sea water by means of a continuous deck, when engaged in any fishing at night with outlying tackle extending not more than 150 feet horizontally from the boat into the seaway, shall carry one all-round *white* light.

Open boats, when fishing at night, with outlying tackle extending more than 150 feet horizontally from the boat into the seaway, shall carry one all-round *white* light, and, in addition, on approaching or being approached by other vessels, shall show a second *white* light at least 3 feet below the first light, and at a horizontal distance of at least 5 feet away from it in the direction in which the outlying tackle is attached.

Vessels and boats, except open boats as defined in subdivision (*a*), when fishing with drift nets, shall, so long as the nets are wholly or partly in the water, carry two *white* lights where they can best be seen.

Such lights shall be placed so that the vertical distance between them shall be not less than 6 feet, and not more than 15 feet, and so that the horizontal distance between them, measured in a line with the keel, shall be not less than 5 feet and not more than 10 feet. The lower of these two lights shall be in the direction of the nets, and both of them shall be of such a character as to show all round the horizon, and to be visible from a distance of not less than 3 miles.

Within the Mediterranean sea, sailing fishing vessels of less than 20 tons gross tonnage shall not be obliged to carry the lower of the

Page 35 continued.

two lights; should they, however, not carry it, they shall show in the same position (in the direction of the net or gear), a *white* light, visible from a distance of not less than one mile, on the approach of or to other vessels.

Vessels and boats, except open boats as defined in subdivision (*a*), when line fishing with their lines out, and attached to, or hauling their lines, and when not at anchor or stationary, shall carry the same lights as vessels fishing with drift nets. When shooting lines, or fishing with towing lines, they shall carry the lights prescribed for a steamer or sailing vessel under way, respectively.

Within the Mediterranean sea, sailing fishing vessels of less than 20 tons gross tonnage shall not be obliged to carry the lower of the two lights; should they, however, not carry it, they shall show in the same position (in the direction of the lines) a *white* light, visible from a distance of not less than one mile on the approach of or to other vessels.

In fog, mist, falling snow, or heavy rainstorms, drift-net vessels attached to their nets and vessels when trawling, dredging, or fishing with any kind of drag net, and vessels fishing with their lines out, shall, if of 20 tons gross tonnage or upwards, at intervals of not more than one minute, make a blast; if steam vessels with the whistle or siren, and if sailing vessels with the fog horn, each blast to be followed by ringing the bell. Fishing vessels and boats of less than 20 tons gross tonnage shall not be obliged to give the above-mentioned signals, but if they do not, they shall make some other efficient sound signal at intervals of not more than one minute.

Page 36.—Wireless telegraph stations.—*Cancel* section, and *substitute*:—

Wireless telegraph stations are established at Ancona, Brindisi, Castelnuovo, Centopozzi,* Sebenico, and Trieste. For details *see* the respective places.

Communication to Italian stations for mercantile purposes should not be made from a greater distance than 45 miles, except in urgent cases; the limit under normal conditions is less than 70 miles. On establishing communication vessels should signal their distance from the station, and the longitude of all positions should be given from the meridian of Greenwich.

A vessel in distress should make the signal S.O.S., repeating it at intervals of a few seconds, and on receiving a reply, S.O.S. should be repeated; then the nature of the damage and the assistance required should be given.

Tunny fisheries.—Marking.—Tunny fisheries on the coasts of Italy are marked thus:—

* Indicates service by day only.

Page 36 continued.

1. *Tunny fisheries proper*:
   (*a*) The point at which the nets are attached to the shore is marked by a mast not less than 33 feet in height, surmounted by a disc 6 feet in diameter, painted in concentric white and black bands, and exhibiting at night two *white fixed* lights, 6 feet apart, and visible from a distance of 3 miles.
   (*b*) The outer left hand extremity of the nets as seen by an observer situated at the point at which the nets are attached to the shore, is marked by a buoy, boat, or floating mark, surmounted by a spar 16 feet in height, carrying by day two black balls placed vertically 6 feet apart, and by night two *fixed* lights, placed vertically, 6 feet apart, the upper *green*, the lower *white*, visible from a distance of 2 miles.
   (*c*) The outer right hand extremity of the nets, as seen by an observer situated as in (*b*), is marked by day as above (a mast and two balls), and at night by two *fixed* lights, placed vertically, 6 feet apart, the upper *red*, the lower *white*, and visible from a distance of 2 miles.
   The above-mentioned marks are on the outer limit of the tunny nets, or placed outside it should the lights be a hindrance or obstacle to the fishing.
2. *Smaller tunny fisheries*:
   (*a*) The point where the nets are attached to the shore is marked as above.
   (*b*) The outer end of the nets is marked by day by a buoy, boat, or other floating mark surmounted by a mast 16 feet in height, with two balls, placed vertically, 6 feet apart, and at night by two *fixed* lights, placed vertically, 6 feet apart, the upper *red*, the lower *white*, visible from a distance of 2 miles.
3. *Tunny fishery nets laid out in an anchorage*:
   In addition to the foregoing, every anchor for nets is marked by a buoy, or otherwise.

CHAPTER II.

Chart 2701, Gulf of Cattaro to Corfu.

Page 37.—Cape Sta. Maria di Leuca.—Wireless telegraph.—The wireless telegraph station at Cape Sta. Maria di Leuca has been closed.

Page 38.—Port Tricase was entered and cleared by 61 vessels, of 21,358 tons, in 1912.

Chart 2701.

Page 39.—Light.—The lighthouse at Cape Otranto is 105 feet in height.

Storm signals are exhibited from the semaphore near Palascia tower. *See* page 10.

Plan, Port Otranto, on 2701.

Port Otranto.—In the passage between Le Secche and the rocks off S. Nicola point is a shoal with 3 feet water.

Shipping.—In 1912, 42 vessels, of 11,764 tons, entered and cleared the port.

Chart 2701, Gulf of Cattaro to Corfu.

Page 40.—Buoy.—*Cancel* section, and *substitute*:—

Light-buoy.—A red conical light-buoy, exhibiting a *white flashing* light *every three seconds* (flash, *three-tenths of a second*), is moored nearly a cable eastward of the Missipezza.

Page 41.—San Cataldo point.—A rocky ledge, with from 3 feet to 2 fathoms water, extends about a quarter of a mile eastward from the point.

Shoals.—A shoal, with $4\frac{3}{4}$ fathoms water, is situated $1\frac{3}{4}$ miles north-north-eastward of San Gennaro tower, and there is a similar shoal three-quarters of a mile further north-westward.

Chart 1492, Brindisi harbour.

Cape Cavallo.—Light-buoy.—A light-buoy, exhibiting a *white flashing* light *every three seconds* (flash, *three-tenths of a second*), is moored about $1\frac{3}{10}$ miles north-eastward of Cape Cavallo.

Page 42.—Harbours.—Outer harbour.—A channel, about 400 feet wide, has been dredged to the depth of $4\frac{1}{2}$ fathoms into the outer harbour, between Castello island and the main. It is marked by four beacons, surmounted by squares on the east side, and by three beacons, surmounted by triangles, on the west side.

Inner harbour.—There is a depth of 5 fathoms shown on plan 1492 in the channel leading to the inner harbour, and its approach from seaward. Dredging is in progress.

The northern and eastern sides of the town are faced by quays. Between the Port office and the Romana column is the slightly projecting town quay, used by the P. & O. Company's vessels. On the north-western side of Pigonati channel is the P. & O. Company's coaling quay.

A masonry sea-wall, about 5 feet high, has been built around the western arm of the harbour, where deep quays do not exist, and on it is a broad road. At frequent intervals on the wall are large bollards for securing vessels' stern hawsers, and the whole length is lit by electric arc lights. Vessels lie about 30 feet off the wall, and goods are loaded or discharged by the use of stages.

Page 42 continued. Chart 1492.

From about a cable eastward to 3 cables westward of the castle a line of wooden pontoons stands out on large concrete piles. This line is broken at intervals to give room for a pier with two small cranes, a 4-ton revolving crane, a camber for submarines, a floating dock, and another revolving crane. A large part of the inner harbour has been reserved for men-of-war exclusively, and on the north shore of the western arm are extensive Government coal depôts; there are other depôts on the eastern side of the entrance to the inner harbour. At the head of the southern arm is an oil depôt, with two jetties, where six destroyers can take in oil at the same time.

Page 43.—Buoys.—The outer mooring buoy for the use of the vessels of the Peninsula and Oriental Steam Navigation Company lies about 4½ cables, W. by S., from the lighthouse on Fort Mare mole, and the inner buoy is about three-quarters of a cable further south-westward.

Three mooring buoys lie on the eastern side of the southern arm of the inner harbour, and one mooring buoy eastward of Arena point, in the western arm.

Two white buoys with red flags have been moored between the extreme of Fort Mare breakwater and Secca del Fico to mark the dredged channel, the depth in which is reported in 1916 to be 30 feet. Vessels should pass between the buoys.

Deposit.—A can buoy is moored about 5½ cables north-eastward from Licola point to mark a place for depositing material arising from dredging in Brindisi harbour.

Secca del Fico.—*Cancel* section, and *substitute*:—

Secca del Fico extends about a quarter of a mile north-eastward from Secca del Fico point, which is situated about half a mile eastward of the entrance to the inner harbour; it has less than 3 fathoms water, but Fontanella rock, half a cable off the beach, has 4 feet only. Light-beacon, page 44.

Secca dell' Arco has 3 fathoms water only.

A rock.—The rock, situated on the western side of the fairway about 3 cables south-eastward of Riso point lighthouse, has been removed to a depth of 5¼ fathoms.

Pedagne rocks.—A breakwater extends from Cape Bianco north-eastward to the southern point of Pedagna grande, and closes Trapanelli passage, but there are two small passages for boats, 100 yards and 400 yards from Cape Bianco.

Cancel paragraph after **Clearing marks,** commencing "Small craft."

Page 43 continued. Chart 1492.

Conspicuous chimney.—There is a conspicuous chimney on the shore about three-quarters of a mile west-south-westward of Cape Bianco, and near the mouth of the Fiume grande.

Secca Piatti.—Beacons.—Secca Piatti and Secca Cavallo are each marked by a beacon on their eastern sides.

Shoal.—A shoal with a depth of 5 feet lies $2\frac{1}{10}$ cables eastward of Secca Piatti beacon.

Page 44. — Secca del Fico. — *Cancel* paragraph, and *substitute*:—

Secca del Fico.—A light is exhibited from a beacon situated in about $3\frac{1}{2}$ fathoms water, $2\frac{2}{10}$ cables, S. 52° W., from the lighthouse on Fort Mare breakwater.

Inner harbour entrance.—The lights at the outer end of the inner harbour entrance are shown from red huts, 24 feet high, and those at the inner end from iron standards, 22 feet high.

Inner harbour.—The light exhibited from an iron shed on the North quay has been discontinued. *Cancel* paragraph.

Entry signals.—The following signals are made from an iron trellis mast situated near the Romana column, and on the prolongation of the axis of the Pigonati (entrance) channel, to indicate to in-going vessels that the entrance is clear, or that the channel is obstructed by an out-going vessel:—

Signal.	Signification.
By day—Two discs horizontal - - - -	Entrance clear.
Two discs vertical - - - - -	Entrance closed.
At night—Three *red fixed* lights in a triangle -	Entrance clear.
Three *red occulting* lights in a triangle -	Entrance closed.

The discs are 13 feet apart. The lights, which are unwatched, are placed at the points of an equilateral triangle, apex upwards, the upper light being 59 feet above high water, and the lights about 11 feet apart.

The lights appear as one light at the distance of about 5 miles, and are separately distinguishable at the distance of about a mile.

In order to avoid accidents in Pigonati channel it is directed that an out-going vessel must wait, and leave the channel clear for an in-going vessel, when both vessels would otherwise be in the channel at the same time.

Dredging.—Signals.—Dredging works are in progress in the vicinity of Pigonati channel, between the inner road and the inner harbour, and during their continuance the following signals are to be made, and their signification must be strictly complied with.

Page 44 continued. Chart 1492.

Before entering or leaving the inner harbour, a steam vessel is to give four short blasts by the siren, and a sailing vessel four blasts by a horn. These signals will be replied to thus:—

A black ball hoisted on the operating dredger, or other craft, signifies passage closed.

A red flag signifies passage clear.

The flag will be hoisted on that side of the dredger on which the vessel can pass.

Dredging work is carried on between daylight and sunset.

Prohibited anchorages.—Merchant vessels are prohibited from anchoring in the outer harbour, northward of a line drawn from Fort Mare semaphore, N. 86° W., to the west shore; in the inner harbour, westward of a line drawn N. 21° W. across the western arm, about three-quarters of a cable westward of Arena point, and southward of a line drawn S. 77° W. across the southern arm, about a cable from the head.

The limits of the prohibited areas are marked by posts surmounted by balls.

Page 45.—Directions.—From the north-westward.—*Cancel* the second paragraph, and *substitute*:—

When Pedagne rocks lighthouse bears S.E., and Fort Mare breakwater lighthouse S.W., steer South until the latter lighthouse bears W.S.W., to avoid the 5¼-fathom rock situated about 3 cables south-eastward of Riso point lighthouse. Then steer to pass about half a cable southward of Fort Mare breakwater lighthouse and Bardet shoal bell-buoy, and northward of the Secca del Fico light-beacon, and between the two white buoys with red flags marking the dredged channel.

Continue westward until the trellis mast from which the entry signals are exhibited is open north-westward of the south-eastern shore of Pigonati channel, then steer for the trellis mast, keeping it in mid-channel.

Vessels are required to go as slow as possible through the Pigonati channel.

By night.—*Cancel* section, and *substitute*:—

At night.—Approach with Fort Mare breakwater light bearing W.S.W., and when Pedagne rocks light bears S.E. steer to pass southward of the breakwater light, and northward of Secca del Fico light, and between the two white buoys with red flags marking the dredged channel. Then steer W. ½ N. until the three *red* lights, exhibited from an iron trellis mast near the Romana column, are open north-westward of the lights on Pigonati mole, if the channel is clear, when, avoid the two mooring buoys in the inner road and steer for the three *red* lights near the Romana column, and through Pigonati channel, in which the

Page 45 continued. Chart 1492.

green lights are left on the starboard, and the *red* lights on the port hand.

In leaving the harbour, keep the three *red* lights near Romana column open of the south-eastern side of Pigonati channel until Secca del Fico light bears East, to avoid the shoal ground extending from the southern shore of the inner road.

The town of Brindisi had 28,438 inhabitants by the census of 1911.

Page 46.—Third paragraph, *cancel*, and *substitute*:—

The railway station is on the western side of the town, but a branch runs from it, round the southern side of the town, to near the Port office.

Time signal.—A ball is hoisted close up to the top of the eastern mast of the wireless telegraph station, situated about $1\frac{3}{4}$ cables north-eastward from Arena point, at five minutes before the signal, and dropped at noon Standard time, or 23h. 00m. 00s. Greenwich mean time.

A gun is fired from Vittoria castle at noon, but must not be used for determining the errors of chronometers.

Pratique.—Regulations.—Vessels entering the port from abroad after sunset, and not desiring to obtain pratique immediately, should anchor in the outer or inner road and hoist a *red* light.

Vessels entering the port from abroad after sunset, and desiring to obtain pratique immediately, are to hoist a *red* light, and may enter the inner harbour.

The *red* light is always to be kept hoisted until pratique has been granted by the proper officer.

These regulations must be strictly complied with.

Trade.—In 1912 the value of the imports was £391,922, and that of the exports £217,985. In 1913, 1,530 steam vessels, of 2,057,295 tons, and 248 sailing vessels, of 27,364 tons, entered the port.

Coal.—Owing to the formation of labour leagues and trade unions with a limited number of members, the discharge of steam colliers is limited (1913) to 500 tons a day.

Water.—At the back of the castle are tanks containing 5,000 tons of distilled water, which is laid on to each destroyer's berth.

Page 47.—Dock.—*See* Appendix.

Patent slips; *cancel* paragraph.

Hospital.—The naval hospital can take from 100 to 150 patients, and an additional 30 to 40 patients in the isolation wing.

Repairs.—The engineering works of the Cantiere Meccanico Brindisino are reported to be capable of executing ordinary repairs to

Page 47 continued. Chart 1492.

hull, machinery, and boilers. The foundry can undertake castings in brass up to 15 cwt., and in cast iron up to 30 tons.

Wireless telegraph.—A wireless telegraph station has been established at Brindisi, and is open to the public at all times. The call letters are I.C.E.

Telegraph cable.—A telegraph cable is laid between Brindisi and San Giovanni di Medua.

Page 48.—First marginal reference: *For* "Chart 190 [799]" *read* "Chart 199."

Plan, Monopoli, on chart 199.

Port Monopoli.—The mole on the northern side of the port is nearly completed; it extends east-north-eastward about 250 yards from the shore, and then turns east-south-eastward 250 yards; its outer end is about 250 yards north-north-eastward of the northern end of the southern mole.

Light.—*Cancel* paragraph, and *substitute*:—

A light is exhibited, at 34 feet above high water, from a post about 70 yards within the outer end of the northern mole at Port Monopoli. This light should not be closed to less than 100 yards.

Plan of Mola on chart 199.

Page 49.—Light.—The light at Mola is now shown from an iron trellis mast, 33 feet high.

Plan of Bari on chart 199.

Bari.—The population of the town in 1914 was 107,964.

Wireless telegraph station.—*Omit* paragraph.

Page 50.—Port Bari.—A quay is being constructed along the Pizzoli groin. Three mooring buoys are charted in the new port.

Dredging.—When the dredger is away from the dredging ground each of her mooring buoys is marked by a *red fixed* light.

Trade.—In 1913 the value of the imports at Bari was £2,702,953, and that of the exports £1,758,077. In the same year, 807 steam vessels, of 647,797 tons, and 134 sailing vessels, of 10,935 tons, entered the port.

Breakwater. — The breakwater is also known as the Foraneo mole.

South jetty.—The light is shown from a small tower.

Page 51.—Old port.—The North mole, from the head of which the light is exhibited, is named S. Antonio mole.

Page 51 continued. Plan, Molfetta, on chart 199.

Molfetta. — A mole extends north-north-eastward about a cable from the southern shore of the port, and is (1914) being continued about half a cable further. The extremity of the work in progress is marked by a light.

Beacon.—A white truncated pyramidal stone beacon, with square base, 11 feet high, stands on the extreme western rock of the Secca di S. Domenico.

Pages 51 and 52.—Lights.—The light at the extremity of the breakwater at Molfetta is exhibited from a lamp-post, 15 feet high, and the light near the Harbour master's office from a masonry column, 49 feet high.

Plan of Bisceglie on chart 199.

Page 52.—Bisceglie harbour works.—Dredging is in progress in the port of Bisceglie, the East mole is to be extended, and a new jetty is being constructed.

Plan, Barletta, on chart 199.

Barletta.—The population of Barletta was 44,422 by the census of 1911.

Page 53.—Depths.—A shoal with $2\frac{1}{2}$ fathoms water extends three-quarters of a cable eastward from the end of the West mole.

Caution. — The inner part of the west mole should not be approached within 20 yards, as depths of 9 feet extend along its south side for a distance of one cable from the outer extremity.

A light-buoy.—*Cancel* paragraph, and *substitute*:—

The area being dredged is marked by a white buoy showing a *red* lantern light.

The dredger does not obstruct the entrance to the port.

Trade.—In 1913 the value of the imports at the port of Barletta was £474,580, and that of the exports £182,560. In the same year 708 steam vessels, of 482,672 tons, and 412 sailing vessels, of 21,175 tons, entered the port.

Coal.—About 52,079 tons of coal were imported in 1913; there are usually about 1,800 tons of coal or patent fuel kept in stock by private firms.

Lights.—Lights are exhibited from the south-eastern corner of the inner angle of the West mole, and from the north-eastern extreme of the quay, near the Harbour master's office.

At night.—*Cancel* paragraph.

Buoy.—*Cancel* paragraph.

Chart 199, Brindisi to Ortona.

Page 54.—Barletta road.—*Cancel* second paragraph, and *substitute*:—

At night, anchor in from 7 to 9 fathoms water, with the West mole light bearing about S.W., distant from 2 to 3 miles.

Shoal.—*Cancel* paragraph, and *substitute*:—

Margherita di Savoia, a small port, is situated about 3½ miles west-north-westward of the mouth of Ofanto river.

LIGHT.—Lights are shown from a post, 20 feet high, at the end of the mole of Margherita di Savoia.

Plan, Manfredonia, on chart 199.

Manfredonia.—The population of the town of Manfredonia was 13,355 by the census of 1911.

Page 55.—Harbour.—The extension of the mole has been completed to a length of 620 yards from the shore. The mole must be approached with caution, as there are depths of about 1¼ fathoms for 90 feet off it.

Dredging is in progress in the inner part of the harbour. There are two mooring buoys in the harbour.

Lights.—Second paragraph: The mole has been completed, and the light is shown from a post on the outer extremity.

Cancel third paragraph.

Centopozzi.—Wireless telegraph.—There is a wireless telegraph station at Centopozzi (*Lat. 41° 42′ N., Long. 15° 37′ E.*), about 15 miles west-north-westward of Manfredonia. It is open to the public from sunrise to sunset. The call letters are I.C.M.

Plan, Vieste, on chart 199.

Page 57. — Port Vieste. — Light. — The name "Vieste" in black letters has been painted on the lighthouse on Sta. Croce islet.

The signals of distress, *see* page 10, are made at the Vieste lighthouse.

Wireless telegraph.—*Cancel* paragraph; the station has been closed.

Chart 199, Brindisi to Ortona.

Rodi.—A mole is being constructed at Rodi, and was almost completed in July, 1915, for a length of 159 yards.

Lights established.—A light is exhibited, at 39 feet above high water, from a masonry hut on the point north-eastward of the town.

The extreme of the mole in progress is marked by a light.

Anchorage.—There is a heavy breaking sea during sirocco winds, which makes the anchorage unsafe, and exit from the port dangerous; it is therefore advisable to quit the anchorage as soon as a sirocco sets in. The anchorage is also unsafe in any bad weather.

Plan, Tremiti islands anchorage, on chart 199.

Page 58. — Tremiti islands. — There is a passage between San Domino and Cretaccio islands about half a cable wide, with $1\frac{3}{4}$ fathoms water.

Mooring buoys.—A mooring buoy is placed about a cable westward of the south-western point of San Nicola island, and another about $1\frac{1}{4}$ cables northward of the same point.

Plan, Tremiti islands, on chart 199.

Page 59. — Caprara island. — Light. — Distress signals, *see* page 10, are made at Caprara island lighthouse.

Pianosa isle.—Light established.—A light is exhibited, at an elevation of 67 feet, from a metal trellis tower on the south summit of Pianosa isle.

Chart 199, Brindisi to Ortona.

Page 62.—Penna point.—Light established.—A light is exhibited, at 279 feet above high water, from an octagonal tower, 199 feet high, on Penna point.

Plan, Ortona, on chart 200.

Page 63. — Ortona. — Harbour. — The mole has been completed to a distance of $4\frac{1}{2}$ cables from the shore, and it is proposed to extend it for about 300 yards further in the same direction, and then for about 400 yards in a south-easterly direction.

Lights.—*Cancel* both paragraphs, and *substitute*:—

A light is exhibited from an iron mounting on a hut erected on the mole, about 160 yards from the extremity of the new work.

Caution.—*Omit* paragraph, and *substitute*:—

Vessels must give a berth of at least 2 cables to this light to avoid the extension works.

Chart 200, Ortona to the River Po.

Pescara river.—Moles.—A mole extends from the northern side of the entrance to Pescara river, and a mole is in course of construction from the southern side.

Lights established.—Lights are exhibited from iron mountings, 21 feet high, on the outer extreme of the southern and the northern mole respectively.

Page 64.—Colonella.—Semaphore.—A semaphore, surmounting a large tower, painted black and white in squares, is situated about $1\frac{1}{2}$ miles southward of Tronto river entrance.

Giulianova. — A groyne breakwater is under construction to protect the Giulianova foreshore between the Tordino and Salinello rivers; about 109 yards have been built, and when completed the groyne will have a total length of 175 yards, a height of 10 feet, and a width of 19 feet on its upper portion.

CHAPTER III.

Chart 200, Ortona to River Po.

Page 66.—S. Benedetto.—There is a mole here, 200 yards long.

Lights.—A light is exhibited from a mast on the mole; and a light is also shown from a wooden support on the shore about half a cable southward of the root of the mole.

Pedaso.—Light.—The name "Pedaso" has been painted in black on the lighthouse.

Plan 3212, Port of Ancona.

Page 69. — Ancona. — Trade.—In 1913 the port was entered by 1,235 steam vessels and 2,370 sailing vessels, with an aggregate tonnage of 1,300,421 tons.

Coal.—About 9 days' notice should be given if several thousand tons are required.

Harbour.—A mole, which is known as the Health mole, projects about a cable south-westward from the North mole, about a cable from its inner end; on its north-eastern part, is the Port and Health office.

A mole is in course of construction southward from the battery on the North mole; its present length (1912) is about 100 yards.

Harbour regulations.—Caution.—Owing to the works in progress, vessels bound for Ancona should keep in a depth of 8 fathoms. All vessels must wait in a position 4 miles northward of the Cappuccini semaphore until permission to enter has been signalled from the semaphore.

Anchorage in the roadstead during the day in the vicinity of the port is restricted, except in special cases, to the space eastward of the meridian of the semaphore.

Pages 69, 70.—Depths.—*Cancel* first paragraph of section, and *substitute*:—

The depth of water between the moleheads is from $3\frac{3}{4}$ to $4\frac{1}{2}$ fathoms, and in the northern part of the harbour from $4\frac{1}{2}$ to 4 fathoms. In the southern part of the harbour the depth is less than 3 fathoms. The bottom is dark soft mud, except in the southern part of the harbour where it is rock. There are bollards on the moles for vessels at anchor to haul their sterns in. Dredging is in progress.

Page 70.—Beacon.—*Cancel* section.

North mole.—Lights established.—A light is exhibited from the outer end of the mole in progress from the battery on the North mole, and also from a mast at each of the two outer corners of the Health mole.

Storm signals are exhibited from Mount Cappuccini semaphore station. *See* page 10.

Time signal.—A ball is hoisted half-way up 5 minutes, and

Page 70 continued. Plan 3212.

close up 3 minutes, before the signal, at a mast at Mount Cappuccini semaphore. It is dropped at noon standard time, or 23h. 00m. 00s. Greenwich mean time. Should the signal be inaccurate the ball will be hoisted half-way up as soon as possible after the signal, and kept in that position for 5 minutes.

A gun is fired at noon standard time, simultaneously with the drop of the ball.

Should either of the signals fail, or be inaccurate, they will both be repeated at 1h. 00m. 00s. standard time.

Wireless telegraph. — *Cancel* paragraph: The wireless telegraph station at Mount Cappuccini has been closed; and *substitute*: "A first-class wireless station has been established at Ancona. Call letters I.C.A. It is open to the public at all times."

Plan, Senigallia, on chart 200.

Page 71. — Senigallia. — Works for extending the East mole of the harbour about 150 feet are in progress.

Page 72.—Lights.—The hut from which the light on the old East pier head is shown has been painted in red and white bands.

A light is exhibited on the outer extreme of the East mole to mark the works in progress.

Plan, Fano, on chart 200.

Fano port.—Works for extending the mole eastward of the eastern mole of the harbour and the western mole have been completed.

Page 73.—Lights.—*Cancel* the three paragraphs and *substitute*:—

A light is shown from a red circular tower and dwelling, 51 feet high, situated about half a cable southward of the root of the inner East mole.

Lights are also shown, one on each side of the entrance, and one from the extremity of the inner or middle mole inside the harbour.

Plan, Pesaro, on chart 200.

Pesaro.—Shoals.—Foul ground, terminating in a rock with less than 6 feet water, extends nearly three-quarters of a cable northward from the outer end of the eastern pier, and a rock, with one fathom water, lies 1½ cables north-westward from the same place.

Page 74.—Pesaro.—Lights.—The light shown to mark the extremity of the extension of the East mole is moved as the work progresses.

Chart 200, Ortona to the River Po.

Castel di Mezzo.—Light.—The name "Castel di Mezzo" has been painted in black on the lighthouse.

Plan, Rimini entrance, on chart 200.

Page 75.—Rimini.—Lights.—The turret on the outer end of the East mole has been painted in red and white horizontal bands.

Light established.— A light is exhibited from an iron mast over a hut, painted in black and white horizontal bands, on the outer end of the West mole.

Beacon.—A beacon, painted in red and white stripes, is established on the pilework of the eastern mole, immediately in front of the light-turret.

Fog signal.—The fog signal is established in a grey metal cylindrical turret, with a masonry base, 17 feet high, 40 yards from the outer end of the East mole; the signal is also given in freshets.

Chart 200, Ortona to the River Po.

Bellaria.—A harbour of refuge for fishing boats is being constructed at Bellaria, at the mouth of the River Uso, the eastern mole is completed, and is about 150 yards in length, a portion of the protecting wall facing the sea.

Cesenatico.—The north-west pier is completed.

Page 76.—Lights.—*Cancel* section, and *substitute*:—

Lights are exhibited from the heads of the North-west and South-east moles, and also from a square tower, 58 feet high, situated about 1½ cables within the outer end of the South-east mole.

Fog signal.—The fog signal is established at the South-east mole head.

Cervia.—The entrance to the port of Cervia is between two moles.

Lights.—*Cancel* section, and *substitute*: A light is exhibited from a red octagonal tower, 41 feet high, situated near the inner end of the South mole; and a light is also exhibited from an iron lamp-post, 7 feet high, on the South mole head.

Ronco river.—Semaphore.—There is a semaphore station about 1½ miles southward of the entrance to Ronco river.

Page 77.—Ravenna.—The population of Ravenna was 70,665 in 1913.

Plan, Corsini entrance, on chart 200.

Port Corsini.—*Cancel* paragraph, and *substitute*:—

Port Corsini is the mouth of the canal which commences at Ravenna, and during its course of 6 miles is fed by the water from the neighbouring marshes. Vessels of some 80 tons ascend it, with the flood, to the town. The depth of water at the entrance is maintained by two moles, 120 feet apart, which project eastward about 870 yards, the southern mole extending rather beyond the

Page 77 continued. Plan on chart 200.

other; both moles are being extended eastward. The depth in the channel to Corsini is 13 feet, and 9 feet can be carried to Ravenna. The entrance is liable to obstruction during extension of moles. The pilot station is at the lighthouse on the southern side of the canal, 2 cables inland.

Lights.—Extension works on both the North and South moles are marked by lights.

Buoys.—A red conical buoy is moored about a cable eastward of the southern mole extension works, and a similar buoy close south-eastward of the same mole end.

Mark.—From the middle of the head of the North mole a mast projects horizontally 13 feet, and at its end is a red cone.

Page 78.—Semaphore.—*Cancel* section; the semaphore is closed.

Chart 200, Ortona to the River Po.

Lamone river.—Two reinforced-concrete moles have been built out, about 60 feet apart, for a distance of three-quarters of a cable from the shore, at the mouth of the Lamone river.

Depths. — The depths vary constantly between the moles, the greatest being about 8 feet, but there is frequently only 1½ feet in the channel.

Magnavacca.—A bar has formed at the entrance to Port Magnavacca, rendering access difficult.

The moles at Magnavacca are to be prolonged, and work on them has commenced; vessels should therefore approach the entrance of the port with caution.

Page 79.—Lights.—The light, situated 27 yards from the southern extreme of the piles, is exhibited from a mast surmounting a grey hut.

Chart 201, River Po to Cape Promontori.

Page 81.—Po della Pila.—The shoal on the southern side of the Po della Pila has extended, and there are (1913) depths of less than 3 fathoms to about 4½ miles east-south-eastward of Maestra point lighthouse. The light-and-whistle-buoy should be given a good berth, as there are depths of less than 3 fathoms southward and south-eastward of its position.

Maestra point.—Light.—The dwelling-house of Maestra point lighthouse is white and the lighthouse is situated on the northern side of the Po della Pila entrance, nearly 3 miles inside the outer edge of the bar.

Page 82. — Light-buoy. — A conical light-and-whistle-buoy painted black and white in horizontal stripes, and exhibiting a *white*

Page 82 continued. Chart 201.

occulting light *every four seconds* (eclipse, *two seconds*) is moored about 4 miles east-south-eastward of Maestra point lighthouse.

Port Levante.—Leading lights are shown near the coast, about a mile northward of the Po di Levante, the rear light from a white metal trellis-work tower, and the front light from a moveable metal mounting, situated 220 to 230 yards from the rear; the front light is moved as the changes in the channel require.

Small vessels approach the entrance to the channel leading to Port Levante with the lights in line, which leads clear of the shifting bank to the eastward of the entrance.

Page 83.—Approaches to Venice.—Submarine vessels. —*See* page 9.

Plan 1483, Ports Chioggia, Malamocco, and Lido.

Navigation in the channels.—Regulations.—Sea-going steam vessels are to proceed at a moderate speed, not at any time exceeding 6 knots, and when near other vessels moored in the channel the speed is to be reduced to the slowest possible to keep the vessel under control.

Steam vessels entering or leaving should proceed at intervals of not less than 10 minutes from one another.

Steam vessels of more than 1,500 tons net, when leaving Marittima in ballast, with a favourable stream or strong wind, should have a tug ahead to assist the steering until beyond the military mooring buoys at Giardini. A tug will be compulsory for those steam vessels which have inflammables or explosives on board, when required by the Captain of the Port.

Steam vessels are not allowed to pass one another in the channel.

Sailing vessels over 80 tons net are not allowed to navigate under sail in the channels, and those of less than 80 tons must leave the fairway clear for steam vessels and their tugs, anchoring or mooring on the side of the channel if necessary; any warping lines used must not obstruct navigation. The mooring posts in the channels and along the banks are fixed and assigned by the Port Harbour master. Mooring cables which present any danger to vessels should be marked during the day by a noticeable mark, and at night by a *white* light.

A copy of these regulations, and also those affecting local steam and motor craft, will be shown to the masters of vessels by the pilots.

The regulations must be strictly carried out.

Port Chioggia.—Depths.—The depths on the bank fronting the entrance to the port have decreased (1912), and caution is necessary in crossing it.

Page 84.—Harbour works.—Breakwaters are being constructed eastward from the spur of the bank eastward of Fort San

Page 84 continued. Plan 1483.

Felice and from Fort Caroman breakwater. The passages between the light-buoys marking the outer ends of the breakwater works and the shore are dangerous.

Mooring buoys.—Five mooring buoys for torpedo vessels, and one for a vessel of moderate size, are established in the port.

Fort Caroman breakwater.—Light established.—A light is exhibited from a cylindrical reservoir, painted red and white in horizontal stripes, on a masonry base, 20 feet high, on the outer end of Fort Caroman breakwater.

Light-buoys.—South breakwater.—A red light-buoy, exhibiting a *red flashing* light *every three seconds* (flash, *three-tenths of a second*), is moored about $1\frac{2}{10}$ miles east-south-eastward of Fort San Felice lighthouse, and marks the outer end of the works in progress for the construction of the South breakwater.

North breakwater.—A black light-buoy, exhibiting a *green flashing* light *every three seconds* (flash, *three-tenths of a second*), is moored about a mile east-south-eastward of Fort Caroman breakwater, and marks the outer end of the works in progress for the construction of the North breakwater.

Chart 201, Gulfs of Venice and Trieste.

Spoil buoy.—The spoil buoy is a red conical buoy, surmounted by a staff and ball.

Plan 1483, Ports Chioggia, Malamocco, and Lido.

Buoys.—A conical buoy, painted black and white in horizontal stripes, and surmounted by a cone, marks the sandbank about a cable westward of S. Felice fort.

A spherical buoy, surmounted by a cone painted white and black in horizontal stripes, is moored about 4 cables west-north-westward of Fort San Felice lighthouse.

Page 86.—Port Malamocco.—Beacons.—*Cancel* "A beacon is charted about one cable within the extreme of this spit in about 3 fathoms."

Buoys.—*Omit* the two paragraphs and *substitute*:—

Inside the short mole, jutting out from the shore, just westward of Fort San Pietro, are two mooring buoys marked "N." lying parallel to the mole, and forming a berth for a vessel of 320 feet, moored head and stern. Four mooring buoys are established further to the westward, Nos. 1, 3, and 5 forming two berths for large vessels, moored head and stern, and No. 4 a swinging berth for a vessel of about 300 feet.

Another mooring buoy, situated about $2\frac{3}{4}$ cables westward of the extremity of the short mole, is provided for swinging ships.

Page 86 continued. Plan 1483.

Pilots will not slip from these buoys until slack water, and it is impossible to tell the direction of the streams, which are strong and variable, without local knowledge.

Wireless telegraph.—*Cancel* paragraph.

Page 87.—Lights established.—South breakwater.—A light is exhibited from a concrete tower, 45 feet high, on the outer extremity of the South breakwater at Port Malamocco.

San Pietro fort mole.—Lights are exhibited from an iron framework, 30 feet high, on the outer end of the mole extending northward from the western end of San Pietro fort.

Light-buoy.—A black light-and-bell-buoy, exhibiting a *red fixed* light, is moored in Port Malamocco entrance, about 4 cables westward of the North breakwater lighthouse, and just inside a patch with $3\frac{1}{4}$ fathoms water.

Pilots.—The pilot boats fly a blue-white-blue flag at the mast head, have the letter P on the sails, and the word "Pilota" on the bow and stern.

Mooring buoys.—*Cancel* paragraph.

Page 88.—The population of Venice in 1913 was 166,971.

Consulate.—*Cancel,* and *substitute*:—

A British Vice-Consul is stationed at Venice.

Trade.—In 1912 the total value of the imports, as registered at the Custom house, was £11,816,973, and of the exports £5,170,498.

In 1913, 2,463 steam vessels, of 2,487,275 tons, and 2,063 sailing vessels, of 121,848 tons, entered the port.

Docks.—*See* Appendix.

Page 89.—Time signal.—*Cancel* paragraph, and *substitute*:—

Time signals. — A group of six electric lights at the eastern turret of San Giorgio island, about 82 feet above the ground, is switched on at noon standard time, or 23h. 00m. 00s. Greenwich mean time, and switched off at 0h. 05m. 00s. standard time, or 23h. 05m. 00s. Greenwich mean time. The signal should be seen from a distance of about 3 miles.

A similar signal is made from the north wall of the highest part of Sylos factory at the Naval station.

Page 90.—Directions.—*Cancel* the first paragraph of section, and *substitute*:—

In making Malamocco in hazy weather, the entrance is seldom first seen, as the lighthouses are then not easily distinguished. In clear weather, by day, the buildings of Venice may be seen. The most conspicuous object to the northward of the port is the pilot tower

Page 90 continued. Plan 1483.

(page 86); about 2 cables westward from the tower is a quoin-shaped clump of trees. To the southward are the church of San Pietro in Volta and Porto Secco, with short belfries, and the Campanili at Pelestrina and Chioggia.

Cancel the third paragraph of section, and *substitute*:—

Enter between the breakwaters with Spignon and Rocchetta light-houses in line, N. 66° W., and keep this mark on, which leads northward of the light-and-bell-buoy, until Fort San Pietro mole light-house bears S. 67° W.; and thence keep in mid-channel. There is a least depth of 29 feet in this route, but with extraordinary low tides there may be a foot less water. When within Fort San Pietro mole steer for the anchorage.

Caution.—Vessels entering the port of Malamocco with a strong north-easterly wind, which has been blowing for some time, should get well to the northward, and bring the head of the southern breakwater to bear about W. by S., steer in on this line, going slow until Malamocco light is abeam, when speed should be increased and the vessel headed up the entrance; if this precaution is not taken there is great danger, under these circumstances, of the vessel's head being thrown round towards the northern breakwater by the wind, sea, and current.

Large vessels should go up the channels to Venice at half-tide, if practicable, so that in case of taking the ground it will not be difficult to get off with the rise of tide. In the minor channels stakes mark one side only; there is always a stake to mark the junction of two channels. The channels are to be navigated at slow speed, and great attention paid to boats and lighters.

Page 91.—Line 3: *After* "tide" *insert* "time of departure of the fishing fleet."

Anchorage.—Mooring buoys for large and small vessels have been placed in San Marco and Giudecca channels.

Wireless telegraph.—*Cancel* paragraph.

Spoil buoy.—*Cancel* paragraph, and *substitute*:—

Spoil buoy.—A red conical buoy, surmounted by a ball, is moored about $3\frac{3}{4}$ miles east-north-eastward of Malamocco North breakwater lighthouse to mark the place for deposit of spoil.

Measured distance.—North-eastward of Port Malamocco is a measured distance of 15,306 feet, or $2\frac{1}{2}$ miles nearly; the running mark is San Pietro in Volta steeple in line with the South breakwater lighthouse, S. 54° W.; the south-western limit mark is Poveglia and Malamocco steeples in line; and the north-eastern limit mark San Giorgio and San Lazzaro steeples in line; the depth on the course is from $5\frac{1}{2}$ to 6 fathoms.

Plan 1483.

Page 92. — Port San Nicolo del Lido. — Depths. — The entrance channel is from about 3½ to 2 cables wide, decreasing to about one cable northward of Fort San Nicolo.

There is reported to be a least depth of 24 feet in the channel from Lido to Venice.

Lights established. — South-west breakwater. — A light is exhibited from a red framework on the outer end of the South-west breakwater.

North-east breakwater. — A light is exhibited from an octagonal two-storied concrete tower, with a domed top, and a double verandah on the seaward side, 56 feet high, on the outer end of the North-east breakwater.

Leading lights have been established 3,460 yards apart, which, when in line N. 51° W., lead through the entrance to the port. The rear light is exhibited from an iron framework, 64 feet in height, situated on the south-east coast of Murano island, and the front light from a concrete beacon, on the north bank of the channel, about 3 cables northward of Fort San Nicolo semaphore.

Channel.—Light-beacons established.—Lights are established, shown from four concrete beacons, two on each side, to mark the turn of the channel north-eastward of Fort S. Nicolo. On the north side of the channel the outer beacon is the same as that from which the front leading light is shown, and the inner is situated 1½ cables north-eastward of Fort S. Andrea. On the south side of the channel the two beacons are situated $1\frac{2}{10}$ cables northward, and 2½ cables north-westward, respectively, from Fort S. Nicolo semaphore.

Buoys.—*Cancel* section, lines 15 to 25 of page, and *substitute*:—

Light-buoys.—A light-buoy is moored about 7 cables south-eastward of the south-western breakwater lighthouse, and three light-buoys are moored on the south-western side of the channel between the breakwaters. These buoys, each of which is surmounted by a red cone, and exhibits a *red flashing* light *every four seconds* (flash, *one second*), are left on the port hand entering.

Four light-buoys, each of which is surmounted by a black cone, and exhibits a *green flashing* light *every four seconds* (flash, *one second*), are moored on the north-eastern side of the channel, and are left on the starboard hand entering.

Mooring buoys.—Four buoys have been placed about 130 yards north-eastward, eastward, southward, and south-westward from the head of the South-western breakwater, for mooring boats landing material for completing the breakwater, and two warping buoys are moored, one on each side, about 4 cables inside the entrance.

Page 92 continued. Chart 1483.

Buoy.—A black spherical buoy, surmounted by a cone, painted black and white in horizontal stripes, is moored about a mile eastward of Fort San Nicolo semaphore to mark the bank between Lido and Treporti channels.

NOTE.—Buoys inside Fort San Nicolo are not mentioned herein, nor are they shown on the plan.

Dredging operations are in progress in Port Lido channel; the dredger, which exhibits the "Not under control" signal, is moored ahead and astern in the direction of the streams and can be passed on either side at the slowest possible speed. In heavy weather, the dredger will go into S. Nicolo del Lido road or S. Marco channel.

Regulations for entering.—*Cancel* paragraph. *See* page 83.

Page 93.—In margin: *For* "Plan 1413 [794]" *read* "Plan 1483."

Page 94.—Port Falconera.—Lights established.—A light is exhibited from a lamp-post, painted in red and white horizontal bands, on the western side of the entrance to the port.

A light is exhibited from an iron post, painted in black and white horizontal bands, on the shoal on the eastern side of the entrance to the port.

Page 95.—Tagliamento point.—Light established.—A light is exhibited, at 72 feet above high water, from a white circular tower over a two-storied house, situated on Tagliamento point.

Page 96.—*Cancel* first paragraph, and *substitute*:—

Five conical buoys are placed, about one mile off-shore and some 7 cables apart, from eastward of Port Lignano entrance to westward of Port Buso entrance, and mark the fishery limits.

CHAPTER IV.

Chart 1434, Gulf of Trieste.

Page 97.—Port Buso.—*Cancel* section, and *substitute*:—

Port Buso communicates with and receives the waters of the Anfora, Ausa, and Indermur rivers, but is only suitable for small coasters, which go through the channels to Cervignano, an Austrian village, about 10 miles up the River Ausa, or to Port San Giorgio di Nogaro, in Italian territory.

The banks extending three-quarters of a mile off the entrance have less than 6 feet water, but a narrow channel, with $1\frac{1}{2}$ fathoms least water, leads into the port, where there are depths of from $2\frac{3}{4}$ to $4\frac{3}{4}$ fathoms. Marano steeple, about 5 miles north-westward, and Grado steeple, $5\frac{1}{2}$ miles south-eastward, are good marks. There is an Italian Custom house, with a long wooden landing jetty extending northward from it, on the western side of the port, and an Austrian

Page 97 continued. Chart 1434.

Custom house, with a wooden jetty westward of it, on Port Buso island, on the eastern side, and a little further seaward.

Buoys.—A white can buoy, surmounted by a cone, point downwards, is moored in $2\frac{3}{4}$ fathoms on the eastern side of the entrance to the port. On the same side of the entrance channel are a group of piles and three red spar buoys. The buoys and the piles are left on the starboard hand entering.

Outer anchorage.—There is open anchorage in about $4\frac{1}{2}$ fathoms water with the Austrian Custom house bearing N. 22° W., distant $2\frac{1}{2}$ miles.

Caution.—It is not safe to enter or leave the port during fresh south-easterly winds, as there are then heavy breakers at the entrance.

Supplies.—No provisions can be obtained at the port, but they are procurable from Marano (about $1\frac{1}{2}$ hours by boat with a favourable stream). There are some artesian wells with good but somewhat ferruginous water near the Italian Custom house.

Communication.—A small Austrian steamer runs weekly between Cervigano and Trieste.

Page 98.—The passage leading into Port Grado has been dredged to a depth of 10 feet.

Harbour lights.—*Cancel* paragraph, and *substitute*: A light is exhibited from the head of the embankment northward of Grado village, and from the southern end of the eastern embankment at the entrance to Belvedere channel; this light cannot be lighted in heavy weather.

Buoys.—The entrance channel into Port Grado is marked by three red spar buoys, which are left on the starboard hand entering, and by two black conical buoys, which are left on the port hand entering. The buoys are additional to the piles.

Signals.—Traffic signals are shown daily, from sunrise to sunset, from a signal mast at the northern entrance to the harbour channel.

Port Primero.—The tower near the shore half a mile to the right of the entrance has been demolished.

Page 99.—Port Rosega.—The speed of steamers in the channel between Port Rosega and Monfalcone city must not exceed 2 knots until new regulations.

Light.—The light on the East molehead at Rosega is shown from a red iron post with a platform above a red cylindrical hut, 18 feet high.

Page 99 continued. Chart 1434.

Light-buoy.—A white light-buoy, exhibiting a *red fixed* light, is moored on the western side of the entrance to the western approach channel into Port Rosega.

Port Duino.—Light.—*Cancel* paragraph, and *substitute*: A light, showing sectors, is exhibited from a green lamp-post, 9 feet high, on the head of the mole.

A sector covers the shoal which extends off the mouth of Timavo river.

Page 100.—Sistiana bay.—Harbour lights.—*Cancel* paragraph, and *substitute*:—

Light.—A light is exhibited from a lamp-post, 16 feet high, on the head of the East mole.

Plan, Trieste harbour, on chart 1434.

Trieste. — The population of Trieste, according to the census of 31st December, 1910, was 227,652, and a garrison of 3,052 men.

Page 101.—Trade.—In the year 1912, 12,144 steam vessels, of 6,907,790 tons, and 2,118 sailing vessels of 113,986 tons entered the port.

In the same year, the value of the imports was £60,547,000, and that of the exports £57,700,000.

Trieste harbour. — First paragraph: *Cancel* "works are in progress north-westward of the molehead," and *substitute*:—

There is a boat harbour on the western side of the mole; it is to be extended, and several buoys will be placed within about 275 yards westward of the mole for mooring boats employed on the work.

Third paragraph: There are five projecting moles in the south-eastern part of the harbour.

Page 102.—Harbour works in progress.—*Cancel* paragraph, and *substitute*:—

Franz Josef hafen.—The coast from Santa Teresa mole to the Petroleum pier, on the northern side of Muggia bay, is embanked and forms an extensive line of quayage, from the northern part of which three moles will extend westward; the two northern are completed. Franz Josef hafen, in which are depths of from 9 to 10 fathoms, lies between these moles and three detached breakwaters. The two northern of these breakwaters are each a quarter of a mile long, and the southern 8 cables long; they trend north and south, and are placed "en echelon" 1½ cables apart, the northern breakwater being 2 cables westward of the northern mole, and the southern breakwater three-quarters of a mile westward of the southern mole. The two northern breakwaters and a portion of the southern are above water. Vessels passing between these breakwaters must use caution.

Page 102 continued. Plan on chart 1434.

Buoys.—*Cancel* paragraph, and *substitute*:—

Buoys.—There are several mooring buoys in the harbours.

Prohibited area.—*Cancel* paragraph.

Pages 102, 103.—Lights.—*Cancel* from "fog signal" in line 13 from bottom of page 102 to "stormy weather" in line 5 of page 103.

Page 103.—Lines 9 to 12: Sanitat mole.—*Cancel* paragraph. *After* line 22 *add*:—

Franz Josef hafen. — Lights established. — No. 5 mole. —A light is exhibited from an iron candelabrum, 16 feet high, on each corner of No. 5 mole. These lights are not lit in north-easterly gales.

North breakwater.—North end.—A light is exhibited from a red pillar over a hut, 25 feet high, on the north end of the northern breakwater. South end.—Lights are exhibited from a grey iron support, 36 feet high, on the south end of the northern breakwater.

Middle breakwater.— Lights are shown from red iron structures, 25 feet high, erected on each end of the Middle breakwater.

South breakwater.—A light is exhibited from a red pillar with a platform above a hut, 25 feet high, erected on the south end of the South breakwater.

Fog signal established.—A fog signal is situated in a hut on the north end of the North breakwater at Franz Josef hafen.

Directions. — Anchorage. — *Cancel* paragraph, and *substitute*:—

Mooring buoys.—There are several mooring buoys near the jetties (*see* plan on chart 1434); though generally used by small vessels, their anchors are heavy.

Anchorage.—Large vessels can moor, in about 10 fathoms water, northward of Santa Teresa mole lighthouse and westward of the New harbour breakwater.

Regulations.—Steam vessels entering or leaving Trieste harbour, when eastward of the line between Santa Teresa mole and the northern end of the breakwater of the New harbour, must reduce speed.

Steam vessels from Muggia, Capo d'Istria, Isola, and Pirano bays must, when entering Trieste harbour, pass close to Santa Teresa mole lighthouse, whilst those outward bound for these bays must pass not less than 160 yards from the lighthouse.

Directions.—To enter Franz Josef hafen from the northward pass eastward of the light-beacon on the north end of the northern breakwater, and between the light-beacon on the southern end of that breakwater and No. 5 mole to the eastward.

Page 103 continued. Plan on chart 1434.

Tides.—*Cancel* paragraph, and *substitute*:—

Tides.—It is high water, full and change, at Trieste, at IXh. 30m.; springs rise 2¼ feet, neaps 1¼ feet.

Wireless telegraph station.—A wireless telegraph station is established at Trieste, on Santa Teresa mole. It is open to the public at all times. The call letters are O.H.T.

Docks.—*See* Appendix III.

Page 104.—Time signal.—*Cancel* paragraph, and *substitute*:—

Time signal.—A staff is fixed to the upper part of the northern side of Santa Teresa mole lighthouse (view on plan on chart 1434), and a black ball, 3 feet in diameter, is hoisted five minutes before the signal, and dropped at noon standard time, or 23h. 00m. 00s. Greenwich mean time. Should the signal be inaccurate, the ball will be hoisted to, and kept some time, half-way up.

A gun is fired at the instant of the dropping of the ball.

Barometer.—A barometer diagram, adjusted from time to time, is on the north-eastern side of Santa Teresa mole lighthouse.

Salvage plant.—An additional steam vessel has been added to the establishment.

Chart 1434, Gulf of Trieste.

Page 105.—Servola.—Light established.—A light is exhibited from a green lamp-post, 16 feet high, on Servola North-west molehead.

Line 17 from bottom: *For* "molehead" *read* "East molehead."

Page 106.—San Bartolomeo bay.—Light established.—A light is exhibited from an iron post, 18 feet high, on the north-west angle of the quay in San Bartolomeo bay, 2¼ cables southward of Sottile point lighthouse; sectors are shown to clear the shoals extending from Sottile and Grossa points.

Capo d'Istria.—Light established.—A light is exhibited from a green lamp-post, 13 feet high, on the head of the boat harbour mole, on the northern side of the town.

Page 107.—Port Rose.—There is a telephone station here.

Lights.—The light on Madonna point is shown from a house, 10 feet high, on the bastion of the fort.

Lines 3 to 1 from bottom: *Omit* paragraph, and *substitute*:—

Lights are occasionally shown on the moles, near the root of the breakwater, at Pirano.

Page 108.—Port Rose.—Light.—The light on St. Bernadino point is shown from a red iron tower, 26 feet high.

Plan, Port Umago, on sheet 1559.

Page 109.—Port Umago.—The entrance channel is being dredged to the depth of 16 feet.

Chart 201, Gulfs of Venice and Trieste.

Page 110.—Port Daila.—The post-office at Daila is connected by public telephone stations with the state telephone system.

Light established.—A light is exhibited from a lantern on a green lamp-post, 17 feet high, on Daila molehead.

Plan, Port Quieto, on sheet 1559.

Cittanuova. — The post and telegraph office at Cittanuova is connected by public telephone stations with the state telephone system.

The port.—*Cancel* "A mooring buoy lies half a cable north of the pier light."

Light.—A sector from the light on Cittanuova quay leads between Val shoal and the $2\frac{3}{4}$-fathom extreme of the shoal water extending from Carpignau point.

Light established.—A light is exhibited from a lamp-post, 15 feet high, on the head of the pier at the boat harbour at Cittanuova.

Page 111.—*Cancel* second paragraph, and *substitute*:—

At night, keep in the *white* sector of Port Cittanuova light when in the obscured sector of Dente point light, to avoid Val shoal.

Port Quieto. — Mooring buoy. — A mooring buoy lies in $5\frac{1}{2}$ fathoms water about $1\frac{1}{4}$ cables south-westward of San Pietro point.

Plan, Port Parenzo, on sheet 1559.

Page 113.—Boat passage.—Owing to works in progress for reconstructing the breakwaters extending from San Nicolo island and Sarafel islet, this passage is closed until further notice.

Plan, Ports Fontane and Orsera, on sheet 1559.

Page 114.—Marmi shoal.—Light.—The light is shown from a red conical iron turret with white lantern, on a white masonry base, 30 feet in height.

Piova bay.—Mooring buoy.—A mooring buoy is placed in Piova bay; it is private property, and used for mooring vessels taking stone from the local quarry.

Plan of Canale di Leme on 1559.

Page 115.—Conversado shoal.—The beacon marking the shoal has been removed.

Plan, Port Rovigno, on sheet 1559.

Valdibora bay.—There is a conduit of spring water on the shore of this bay.

Rovigno.—This town is connected with Pola by telephone.

Chart 201, Gulfs of Venice and Trieste.

Page 117.—San Giovanni de Pelago light is shown from a white octagonal tower, 69 feet high, the centre of the lantern being elevated 75 feet.

Page 117 continued. Chart 201.

Fog signal. — When a vessel's fog signals are heard they are answered from San Giovanni de Pelago lighthouse.

Plan 202, Port Pola and Brioni islands.

Barbariga.—Light established.—A light is exhibited from an iron lamp-post, 10 feet high, on Barbariga molehead.

Page 118. — Canal di Fasana. — From about 12 cables west-north-westward of Fasana church, a patch of rocky ground extends 3 cables southward, with a breadth of about 2 cables.

Page 119.—Mooring buoys.—There are fifteen mooring buoys in two lines on the eastern side of Fasana channel.

Light-beacon established. — A light, with sectors, is exhibited from a concrete beacon about a cable east-north-eastward of Saluga point.

Floating beacons.—*Cancel* paragraph, and *substitute*:—

Buoys.—The east coast of Scoglio Grande is bordered by shallow water, and its edge off Rancon point is marked by a white conical buoy, surmounted by two cones, bases together, the upper red and the lower white.

A white conical buoy, surmounted by two cones, points together, the upper white and the lower black, is moored in $4\frac{1}{4}$ fathoms on the south-western side of Cosada shoal.

Page 120.—Line 6: *Omit* from "a most" to "sea" on line 7, the amphitheatre is no longer conspicuous, and *add*: "The dockyard crane is very conspicuous."

Pola. — Port. — Breakwater. — A breakwater is being constructed about three-quarters of a mile northward from Cape Compare; it is above water for nearly its whole length (May, 1914).

Line 22 from bottom: *For* "Christo" *read* "Cristo."

Inner harbour.—The passage between S. Andrea and S. Caterina islets is (1912) prohibited, dredging being in progress there.

Page 121.—Harbour regulations.—The war port district of Pola extends from Gustigna point, on the west, to Forticcio point, on the east, including the bays and harbours on, and the islands fronting the coast. It is prohibited to photograph or draw plans, &c., of structures in the territory of the war port.

The military port of Pola is between lines joining Cape Compare and Cristo point, on the west, and the arsenal and S. Pietro bay, on the east.

The commercial harbour is eastward of the military port.

No merchant vessel is allowed to enter Vergarola bay, Zeno (Fisella)

Page 121 continued. Plan 202.

bay, Figo bay, Zonchi bay, the inner basin of Port S. Nicolo in Scoglio minor island, the bays of Bus, Lunga, Benedetto, Sanadigo, Antilena, Lago, Can, Terra alta, Ovina, Fuora, Saccorgiana, Cacoja, or Centinara, except in cases of distress or with special permission.

All merchant vessels are prohibited from approaching the ammunition establishment and wood preserves in Vallelunga, inside the line marked by buoys, joining the boundary stone near Aguzza point to the municipal baths, or to approach the equipment and construction arsenal.

All merchant vessels within a distance of one mile from the coast of the war port district can be required by the Captain of the Port to withdraw, except in cases of distress or if proceeding to the commercial port, when their national flag must be hoisted on approaching.

Foreign vessels of war must anchor in the outer harbour of the military port westward of a line joining Monumenti point with the outer end of the pier in Vergarola bay, in positions assigned them by the Captain of the Port.

Merchant vessels with petroleum on board must not approach the harbour at night nor touch at Pola unless such cargo is for that port, when it must be quickly transferred under official supervision to the allotted magazine.

Anchorage is prohibited in the area northward of S. Andrea island between lines drawn from Monumenti point to the south-west extreme of S. Andrea island, and from the south-east extreme of that island to Aguzza point.

A mooring buoy will be assigned to a vessel entering the war port, by the guardship, but after obtaining pratique the vessel will proceed to her loading or discharging buoy. Vessels with stores for the dockyard or coal store will be berthed by the Chief of the Naval dockyard, and vessels not granted pratique by the Captain of the Port.

All movements and mooring of vessels are carried out under the responsibility of their captains, except when an officer of the war navy, sent on board specially, assumes responsibility. Movements of vessels are not permitted without the consent of the war navy, except in unforeseen cases, which affect the security of the vessel or of the dockyard.

The anchorage.—*Cancel* paragraph, and *substitute*:—

The anchorage is good everywhere; the best berth is southward of Olivi islet in 11 fathoms water, mud bottom. There are several mooring buoys in the outer harbour. Small craft go alongside the quays of the town.

Foreign war vessels.—*Cancel* paragraph.

Page 121 continued. Plan 202.

Time signal.—*Cancel* section, and *substitute*:—

Time signals.—A rectangular shutter apparatus, about 6 feet square, on the roof of the Imperial Hydrographic Office, is closed daily at 5 minutes before noon standard time, and opened by hand in such a manner that the sky can be seen through the frame of the apparatus, at noon, or 23h. 00m. 00s. Greenwich mean time.

A gun at the Harbour castle is fired on the closing of the shutter at noon standard time.

Should either or both the signals be incorrect, the shutter will be closed one minute after the signal, and repeatedly opened and shut for the space of one minute.

When required by vessels of the Imperial Austrian Navy, on every Tuesday, and on the 5th, 15th, and 25th of every month, the shutter is closed at 10h. 45m. a.m., and opened at 11h. 00m. 00s. standard time, or 22h. 00m. 00s. Greenwich mean time. Ten or more signals will follow the first at intervals of one minute, the shutter remaining open for 10 seconds after each signal, and when the series is completed the shutter will be opened and closed rapidly several times.

Comparisons with chronometers can be obtained direct by applying at the Hydrographic office.

Tides.—*Cancel* paragraph, and *substitute*:—

Tides.—It is high water, full and change, at Pola, at IXh. 5m.; springs rise $1\frac{1}{4}$ feet, neap 9 inches, above the Datum of the chart which is approximately the mean of all low water.

Chart 202, Plan of Pola.

Lights.—*Omit* the first three paragraphs, and *substitute*:—

A light is shown from a column, 19 feet high, on a cylindrical hut at the site of the head of the breakwater under construction, in a position 7 cables N. 5° W. from Cape Compare.

Page 122. — Lines 1 to 19: *Omit* the five paragraphs, and *substitute*:—

Leading lights have been established, which, when in line S. 39° E., lead through the outer harbour. The front light is exhibited from an iron lamp-post on the north-west side of S. Pietro islet, and the rear light is exhibited from the buildings of the Naval land and Marine works office, situated $3\frac{1}{2}$ cables S. 39° E. from the front light.

Harbour lights.—Lights are exhibited from a pole, 27 feet in height above the ground, at the head of S. Pietro bay, in the north-eastern extreme of the port.

Lights are exhibited from a lamp-post, 23 feet high, on the head of Kaiserin Elisabeth mole, and at 105 feet above high water, from the

Page 122 continued. Chart 202.

roof of a house 45 yards northward of the amphitheatre, in the rear of the former and forming leading lights to the pier.

A light is exhibited, at 21 feet above high water, from an iron lamp-post, 17 feet high, on the head of S. Tomaso mole, near the infantry barracks; from a lamp-post on a black and white base, 23 feet high, on Franz Joseph quay; and from a black and white structure, eastward of Olivi island bridge.

Light-buoy.—A white conical light-buoy, exhibiting a *white occulting* light *every ten seconds* (eclipse, *two seconds*), is moored about three-quarters of a mile northward of Cape Compare, and nearly a cable north-westward of the light-beacon on the site of the head of the breakwater, extending northward from that cape. Vessels must pass northward of the buoy.

Page 123.—Regulations.—Particular attention is necessary to the signal carried by dredgers, when entering or leaving this port. *See* page 9.

Boom-defence practice.—Floating booms are frequently placed for practice in the naval port of Pola, and a guardship, moored near them, will warn approaching vessels, either by hailing or by sound signals, not to proceed further.

Docks.—*See* Appendix III.

Chart 201, Gulfs of Venice and Trieste.

Page 124.—Measured mile beacons.—*Cancel* first paragraph, and *substitute*:—

Measured distance.—Beacons are erected on the coast between Capes Compare and Promontore for marking a measured distance of 4 miles. The north-western beacons are near Cape Brancorso, and the south-eastern beacons are on the south-eastern slope of Mount Cope; the beacons in line bear N. 35° E. Other beacons divide the distance into one mile sections, the second section from the south-eastward being further divided into half-miles.

Add to last paragraph of section:—

Vessels running trials on the measured distance, and flying International code pendant A, finding for any reasons, such as much smoke, that the signal is not likely to be seen by any vessels near the course, give short blasts with the siren or steam whistle, or short flashes with a searchlight, until satisfied that the signal is understood.

Page 125.—Lights.—The light exhibited from the semaphore platform is temporarily discontinued.

Semaphore.—*Cancel*, and *substitute*:—

Telegraph and signal station.—There is a telegraph and signal station on Porer rock, and communication can be made by the

Page 125 continued. Chart 201.

International code of signals. The station has telephonic communication with Pola, Fasana, and Brioni.

During gun practice near Cape Promontore, the International code signal G.O. (you are in the line of fire, or within range of forts) will be hoisted at Porer rock signal station.

Beacons.—*Cancel* paragraph and footnote, and *substitute*:—

Beacons.—Two posts, surmounted by white discs, stand on rocks situated N.E. by E. ½ E., distant 4½ cables, and E. ¼ N., distant 4½ cables from Porer rock lighthouse. Their existence must not be depended on, as they are liable to be washed away by the sea.

Page 126.—Sunk rock.—Buoys.—*Cancel* section, and *substitute*:—

Light established.—A light is exhibited, at 48 feet above high water, from a truncated conical tower, 61 feet high, on the shoalest part of Sunk rock.

Buoy.—A red conical buoy is moored on the northern side of Sunk rock shoal in 7 fathoms.

CHAPTER V.

Chart 2711, Gulf of Quarnero.

Page 129.—There is a telegraph office, with a restricted day service, at Carnizza, which has also telephone lines locally and to Altura.

Plan, Port Rabaz, on chart 2711.

Page 130.—Port Rabaz.—Light established.—A light is exhibited from a lamp-post, 15 feet high, on the quay, at Port Rabaz.

Chart 2711, Gulf of Quarnero.

Page 131.—Fianona bay.—Light established.—A light is exhibited from a lamp-post, 16 feet high, on Fianona quay. The light is not visible from Farasina channel. It is unreliable in north-easterly gales.

Lights.—Ika.—The light at Ika is shown from a green lamp-post, 17 feet high, on the north shore of Port Ika. The light is unreliable in north-easterly gales.

Abbazia.—*Cancel* the two first paragraphs of section, and *substitute*:—

Abbazia.—Landmark.—There is a conspicuous high chimney, with its upper part black and its lower part white, about three-quarters of a mile southward of Abbazia.

Light established. — A light is exhibited from a white iron column with a red lantern, over a cylindrical house, 22 feet high, on Abbazia molehead.

Page 131 continued. Chart 2711.

Mooring buoy.—A mooring buoy for large vessels is situated eastward of the molehead.

Plan 1996, Fiume.

Page 132.—Fiume.—Population.—The population of Fiume was 49,806 in 1910.

Trade.—Shipping.—In 1912, the value of the imports was £9,007,000, and that of the exports £10,875,000.

In the same year the port was entered by 14,753 steam vessels, of 3,105,000 tons, and 1,746 sailing vessels, of 80,000 tons.

Dock.—*See* Appendix III.

The port of Fiume.—*Cancel* "(including works in progress)."

Page 133.—Moles.—Petroleum basin.—*Cancel* paragraph, and *substitute*:—

Moles.—Within the port, six moles extend south-westward from the northern shore. The channel between the western of these moles and Maria Teresa mole is about 1½ cables wide.

Mooring buoys.—*Cancel* paragraph, and *substitute*:—

Mooring buoys.—There are several mooring buoys in the port.

Petroleum basin.—The Petroleum basin is situated about 4½ cables north-north-westward of the outer end of Maria Teresa mole.

The torpedo works are situated from about 3 to 4½ cables westward of the Petroleum basin.

Bergudi harbour.—*Cancel* "there is a mooring buoy off the entrance," and paragraph commencing "Two practice targets."

Gabriel Baross harbour.—*Cancel* the second paragraph.

Light-vessel.—*Cancel* paragraph.

Bergudi harbour.—*Cancel* paragraph.

Page 134.—Gabriel Baross.—Light-buoy established.—A light-buoy, exhibiting a *white fixed* light, is moored about a cable eastward of the new mole, on the north side of the entrance to the port. It is unreliable in bad weather.

Regulations.—Vessels entering or leaving Fiume or Gabriel Baross harbour must proceed at a slow speed, and keep on the starboard side of the fairway; those entering Gabriel Baross harbour wait outside till those leaving are clear.

Torpedoes.—Regulations.—Torpedo target rafts are moored on lines drawn N. 86° W. and S. 54° W. from the torpedo works. Those on the first bearing are moored at distances of 1,640, 2,188, 3,282, and 4,376 yards, and each is marked at night by a *white fixed* light, and at distances of 5,470 and 6,564 yards, each marked by two *white fixed* lights. Those on the second bearing are moored at dis-

Page 134 continued. Plan 1996.

tances of 3,282, 6,564, and 7,658 yards, and each is marked by two *white fixed* lights. In order to prevent collision between vessels navigating between Fiume and Volosca and Abbazia, and torpedoes fired from the torpedo works, vessels must pass about a cable off Villa Petri, which is situated on the coast with Castua church bearing N. 11° W. Vessels from Abbazia towards Veglia island must steer southward along the Istrian coast until past the electric central chimney, a distance of about 9 cables.

The firing of each torpedo is indicated by a *long* blast with a whistle or siren at the firing station. Should a torpedo deviate from its intended direction, *short* blasts will be sounded continuously with a more powerful whistle or siren until the torpedo stops.

Tides.—*Cancel* paragraph, and *substitute*:—

Tides.—It is high water, full and change, at Fiume, at VIIIh. 28m.; springs rise 9 inches, neaps 6 inches.

Plan, Buccari bay, on chart 2711.

Page 135.—Signal station.—There is a signal station on Ostro point.

Mooring buoy.—A mooring buoy has been placed 2 cables southeastward of Buccari harbour light lamp-post.

Chart 2711, Gulf of Quarnero.

Page 136.—Bagna cove.—Tunny fishery.—Large tunny nets will extend about 6 cables seaward from the shore of Bagna cove, which is situated on the north-west coast of the northern part of Cherso island, from June until October, inclusive. Other nets will extend both ways at right angles to those extending seaward, so that the whole will form a T. Two light-buoys will mark the north and south extremes of the outer nets, and the vessel *Vedetta* will be moored about the middle of the outer nets.

Fishing is prohibited, except to the licensees, on the coast from Jablanac point south-westward to Sterganac point, during the fishery.

Farasina.—A mooring buoy has been placed in Farasina cove.

Page 137.—Levrera island.—Light established.—A light is exhibited, at 37 feet above high water, from a red conical turret with gallery, 25 feet high, on the west coast of Levrera island about 4 cables from its southern end.

Plan, Porto Lussin Piccolo, on sheet 1561.

Page 139.—*Cancel* second paragraph, and *substitute*:—

There are two mooring buoys on the eastern side of the harbour near the town, and three north-westward of the Health office, inside which are eight mooring buoys for torpedo boats.

Page 139 continued. Plan on sheet 1561.

The town.—*Cancel* "The tender *Lissa*, stationed here, is available for salvage purposes."

Sta. Croce point.—Light.—The light is shown from a red iron post on a masonry base, 31 feet high.

Tides.—*Cancel* paragraph.

Page 140.—Port Cigale.—Light established.—A light is exhibited from an iron standard, 15 feet high, from the head of a new mole on the northern side of Port Cigale; it is not exhibited during north-westerly gales.

Chart 2711, Gulf of Quarnero.

Page 141.—Canidole islands.—Silo rock.—Light established.—A light is exhibited, at 36 feet above high water, from a hexagonal stone tower, 33 feet high, on Silo rock.

Light proposed.—*Cancel* paragraph.

Page 142.—Dragazul cove.—Mooring buoy.—There is a mooring buoy in Dragazul cove in 3 fathoms water.

Page 144.—Gruica islet.—Light.—The lighthouse is an octagonal tower, 42 feet high, with a dwelling adjoining it.

Neresine harbour.—Mooring buoy established.—A mooring buoy has been placed off Neresine harbour in 4½ fathoms water.

S. Martino harbour.—Mooring buoy.—A mooring buoy has been placed in S. Martino harbour in 14 fathoms water.

Darche cove.—Anchorage is prohibited for 80 yards off the north-west shore of Darche cove.

Page 145.—Lussin Grande.—Light.—The light is shown from a green lamp-post, 18 feet high.

Mooring buoy established.—A mooring buoy is placed off Lussin Grande harbour in 2½ fathoms water.

Port S. Andrea.—Light established.—A light is exhibited from a lamp-post, 15 feet high, on the molehead; it is unreliable in heavy weather.

Kraljetto rock.—Beacon.—An iron post, surmounted by a red mark, stands on Kraljetto rock.

Terstenik island.—*For* "Long. 14° 45′ E." in margin *read* "14° 35′ E."

Light.—The lighthouse is situated on the middle of Terstenik island, and consists of a stone octagonal tower, 58 feet high, with dwelling adjoining. The lantern is elevated 87 feet above high water.

Page 145 continued. Chart 2711.

Caisole cove. — Light established. — A light is exhibited from a green lamp-post, 18 feet high, 15 feet within Caisole molehead. The light cannot be lighted during south-easterly gales.

Page 146.—Gallon islet lies about three-quarters of a mile off Cernika point on the south-west coast of Veglia island.

Light established.—A light is exhibited, at 33 feet above high water, from a red conical turret, 31 feet high, on the north-east extreme of Gallon islet.

Plan, Port Veglia, on sheet 1561.

Port Veglia.—Harbour works are in progress.

Light established.—A light is exhibited from a green lamp-post, 15 feet high, on the North mole of Port Veglia.

Chart 2711, Gulf of Quarnero.

Page 147.—Cassion bay.—Harbour works and blasting operations close the entrance to Ponte harbour, except for small vessels, by day, when there is no blasting going on. A red flag is hoisted on a scaffold in the entrance one hour before firing the mines. Vessels should anchor southward of the vertical *green* lights on the eastern side of the entrance to the bay (December, 1912).

Mooring buoy.—A mooring buoy is placed outside the entrance to Cassion bay.

Page 148.—Malinska.—The sandbank on the south-western side of the entrance to Port Malinska is marked by an iron post, painted black and white, and surmounted by two discs.

Castelmuschio bay.—Two mooring buoys are placed in the inner part of the bay, about 65 yards off-shore.

Page 149.—Stipana bay.—Light established.—A light is exhibited from a green lamp-post, 15 feet high, on Port Sillo molehead. The light is unreliable during north-easterly gales.

Page 150.—*Cancel* fourth paragraph, which commences "A (provisional) *fixed white* light."

Mooring buoy.—A mooring buoy is placed in about 14 fathoms water off Crkvenica harbour.

Plan, Port Arbe, on sheet 1561.

Page 153.—Shoals.—Beacon.—The iron beacon on the edge of the shoal off S. Antonio point has been removed. *Cancel* paragraph.

Chart 2711, Gulf of Quarnero.

Page 155.—S. Cristoforo cove.—Light established.—A light is exhibited from an iron lamp-post, 18 feet high, on the north-western side of the entrance to S. Cristoforo cove, situated about $2\frac{3}{4}$ miles south-eastward from Cape Fronte, Arbe island.

Page 155 continued. Chart 2711.

Light. — Dolfin islet. — The light on Dolfin islet is exhibited, at 106 feet above high water, from a white iron turret, 34 feet high, on the summit of the islet. A sector shows over Laganj island and the shoals north-westward of it.

Page 156.—Kamenjak islet.—Light established.—A light is exhibited, at 39 feet above high water, from a small red iron tower, 28 feet high, on the northern end of Kamenjak islet. The light is partially obscured from northward and southward by Lutostrak and Kamenjab islets.

Premuda island.—Light established.—A light is exhibited from a green lamp-post, 15 feet high, on the shore of Loza bay, which is situated on the north-east coast of Premuda island, about 8 cables south-eastward of Medvjak point.

Plan, Port Kreul, on sheet 1561.

Port Kreul. — Light established. — A light is exhibited from a green lamp-post, 18 feet high, on the northern molehead at Port Kreul.

Chart 2711, Gulf of Quarnero.

Vodenjak island.—Light established.—A light is exhibited from a red square tower with a gallery, 23 feet high, on the northern shore of Vodenjak island off the south-west side of Isto island.

Page 157.—Benusic rock.—Light established.—A light is exhibited, at 32 feet above high water, from a red conical tower, 28 feet high, on Benusic rock, which is situated about 2 cables south-eastward of the southern extreme of Isto island.

Port Isto mole.—Light established.—A light is exhibited from a green lamp-post, 16 feet high, on Port Isto mole.

Light.—Zapuntello.—The light is exhibited, at 42 feet above high water, from a red iron tower with a gallery, 29 feet high, situated 45 yards within Vrana point, the north extreme of Melada island.

Plan, Ports Berguglie, Lungo, and Manzo, on sheet 1561.

Rocks.—A rock, with 4½ fathoms water, lies a quarter of a mile northward of Biljavka point, on the east coast of Melada island.

A shoal with 5 fathoms water lies 6 cables south-westward of Stopanja point, the eastern point of Melada island.

Berguglie bay.—The bottom in Vrulje cove, to the northward of Brguiski islet, is rocky, and unsuitable for anchorage.

Page 158. — Light. — Port Lucina light in sight leads over the 5½-fathom shoal, as well as Bonaster rock, in Settebocche channel.

Page 158 continued. Plan on sheet 1561.

Zverinac island.—A patch, with $4\frac{3}{4}$ fathoms water, lies a quarter of a mile southward of Skrivada point.

Page 159.—Vrtlac islet.—A shoal with $5\frac{3}{4}$ fathoms water lies 3 cables north-westward of this islet.

There are heavy tide-rips to the southward of Vrtlac islet during the rising tide.

Glavica point.—Light established.—A light is exhibited, at 29 feet above high water, from a red post, with platform, over a red cylindrical hut, 18 feet high, on Glavica point, the eastern entrance point of Port Manzo.

Chart 2711, Gulf of Quarnero.

Lights.—*Cancel* third paragraph of section, and *substitute*:—

A light is exhibited, at 22 feet above high water, from the top of an iron hut, 20 feet high, on the head of the mole at Selve harbour, on the east coast of Selve island.

Chart 2774, Grossa island to Zirona channel.

Page 162.—Pago bay.—Lights established.—A light is exhibited, at 33 feet above high water, from a red iron post, 22 feet high, on S. Cristoforo point. The light is obscured in Molacca channel to the northward of the point.

A light is exhibited from a red iron post, 17 feet high, on S. Nicolo point.

Harbour light.—*Cancel* paragraph, and *substitute*:—

Port Pago.—Leading lights are established which, when in line S. 25° E., lead into the inner anchorage through the channel marked by posts. The front light is exhibited from an iron post, 18 feet high, on the outer end of the North mole of Port Pago, and the rear light from a similar pole situated 55 yards in rear of the front.

Cancel "**Light.**—A lighthouse is being built on St. Christoforo shoal."

Chart 2711, Gulf of Quarnero.

Tavernelle cove. — Light established. — A light is exhibited, at 29 feet above high water, from an iron lamp-post, 15 feet high, on the south point of Tavernelle cove, about 10 cables southward of Loni point. A sector covers Mata shoal and the $3\frac{1}{2}$-fathom shoal about 6 cables north-north-westward of it.

Port Novaglia.—Light.—*Cancel* paragraph, and *substitute*:

A light is exhibited from a lamp-post, 17 feet high, on the outer end of Port Novaglia mole. A sector of the light leads in $2\frac{3}{4}$ fathoms water clear of the shoals off Points Gaja and Vrtlic.

Page 162 continued. Chart 2711.

Port Simoni.—Light established.—A light is exhibited, at 20 feet above high water, from an iron lamp-post, 15 feet high, on the point on the southern side of the entrance to the port.

Page 163.—Skerda island.—Light.—The lighthouse is painted white.

Chart 2774, Grossa island to Zirona channel.

Port Cossion. — Light. — The light is shown from a lamp-post, 15 feet high.

Page 164.—Puntadura island.—Lights.—*Cancel* paragraph, and *substitute*:—

Light. — A light is exhibited, at 65 feet above high water, from a tower, 67 feet high, in the front part of a two-storied house on the west coast of Puntadura island, about $1\frac{1}{2}$ miles from its north-western end.

Page 165.—Nona bay.—*Cancel* second paragraph, and *substitute*:—

The anchorage is about a mile from the head of the bay and 6 cables from the eastern shore, in about 7 fathoms water; small vessels anchor further in about 3 cables from the shore, in about 4 fathoms water. The Bora is violent here.

Chart 2711, Gulf of Quarnero.

Page 166.—Jablanaz.—Telephone.—There is a telephone office in the town.

Chart 2774, Grossa island to Zirona channel.

Page 167.—Kulina castle.—Shoal water extends about 3 cables south-westward of the point on which is the ruined castle of Kulina.

CHAPTER VI.

Plan, Ports Berguglie, Lungo, and Manzo, on sheet 1561.

Page 169.—Baricev islet (rock).—There is a depth of $3\frac{3}{4}$ fathoms in the passage south-eastward of Baricev islet.

Plan, Port Tajer, on chart 2774.

Port Tajer.—Rock.—A rock, with $3\frac{3}{4}$ fathoms water, lies $3\frac{1}{4}$ cables north-westward of Galiola rock.

Page 170.—Tides.—It is high water, full and change, at Sestrice islands, at Vh. 07m.; springs rise 6 inches.

Chart 2774, Grossa island to Zirona channel.

Sale cove.—There is a conspicuous chapel, painted light blue, in the village at Sale cove.

Chart 2774.

Page 171.—Zmanscica cove.—Light established.—A light is exhibited from a green lamp-post, 19 feet high, on the north shore of Zmanscica cove, situated three-quarters of a mile north-westward of the north point of Kerkuata island.

Luski or Luka island.—There is a conspicuous wind-motor, 90 feet high, situated above Luka village.

Luka point.—A shoal, with $3\frac{1}{2}$ fathoms water, is situated near the north-east coast of Grossa island, 2 cables south-eastward of Luka point.

Rava island.—A shoal, with $4\frac{1}{4}$ fathoms water, lies half a mile northward of the north-western point of Rava island, and a shoal, with $3\frac{3}{4}$ fathoms water, 7 cables westward of the same point.

Rasip island.—A ridge, with from 3 to 5 fathoms water, lies between the east end of Rasip island and the 2-foot rock.

Mana island.—A shoal with $3\frac{1}{4}$ fathoms water lies about a cable, and a shoal, with 3 fathoms water, about $2\frac{1}{2}$ cables, north-westward of the islet northward of Mana island.

Lavsa island.—A shoal, with 2 fathoms water, lies off the south-west coast of Lavsa island, a quarter of a mile north-westward of its south point.

Page 172.—Zut channel.—Shoals.—A shoal, with 3 fathoms water, lies one mile, N. $\frac{3}{4}$ W., from the larger Sversata island; and a shoal, with $3\frac{3}{4}$ fathoms water, lies near the coast of Incoronata island, 6 cables south-westward from the north-west point of Zut island.

Chart 2711, Gulf of Quarnero.

Mezzo channel. — Sparesnjak island. — A shoal, with $4\frac{1}{2}$ fathoms water, lies 2 cables south-south-eastward of Sparesnjak island, to which it is connected by a shallow ridge.

Chart 2774, Grossa island to Zirona channel.

Rocks.—A rock with $2\frac{3}{4}$ fathoms water lies about half a mile west-north-westward of Dikovica island (*Lat.43°53′N.,Long.15°21′E.*) A rock, with 3 fathoms water, lies about $3\frac{1}{4}$ cables S. by E. from Galiola rock, which lies about a mile south-eastward of Dikovica island.

Great Scala island.—Shoal.—A shoal of small extent, with $4\frac{1}{2}$ fathoms water, lies a quarter of a mile eastward of the northern part of Great Scala island (*Lat. 43° 55′ N., Long. 15° 16′ E.*).

Page 173.—Rivanj island.—Light established.—A light is exhibited from a red post with platform, over a cylindrical hut, 18 feet high, on the east coast of Rivanj island, about 7 cables from its southern end. The light is partially or wholly obscured by land,

Page 173 continued. Chart 2774.
except in the strait between Rivanj and Uglian islands, and over the low part of Point S. Pietro.

Page 174. — Port Komasovo. — Light established. — A light is exhibited from a lamp-post, 16 feet high, on the molehead at Port Komasovo, on the north-east coast of Eso island, about half a mile south-eastward of Knezak island.

Uglian island. — Shoal. — A shoal of small extent, with $3\frac{3}{4}$ fathoms water, is situated off the west coast of Uglian island, about three-quarters of a mile southward of Prkljuk cove; there is a depth of $5\frac{1}{2}$ fathoms inside the shoal.

Lights.—San Pietro point.—*Cancel* this paragraph.

Port San Euphemia.—*For* "San Euphemia" *read* "**Santa Eufemia** (San Euphemia)."

Lukoran cove.—Light established.—A light is exhibited from a lamp-post, 18 feet high, on the north-western end of the mole in Lukoran cove, about one mile north-westward from Port Santa Eufemia (San Euphemia).

Kuklica bay. — Light established. — A light is exhibited from a green lamp-post, 17 feet high, on the northern entrance point of Kuklica bay, one mile from the south-east point of Uglian island.

Page 175.—Beacon.—A square stone beacon, 6 feet high, stands in 7 feet water about half a cable southward of S. Pietro point, on the east coast of Uglian island, nearly a mile south-eastward of S. Gregorio point, Port Santa Eufemia (San Euphemia).

Telegraph.—There is a post and telegraph office at Ugliano (Uglian), on the east coast of the island, about $2\frac{4}{10}$ miles south-eastward from its north-western extreme.

Pasman island.—S. Luka cove.—Light established. —A light is exhibited from a green lamp-post, 16 feet high, on the head of the mole in S. Luka cove, which is situated on the north-east coast of Pasman island about 8 cables from its northern point.

Soline cove.—The bottom in the central part of Soline cove is rocky, and only the northern and south-eastern parts of the cove are suitable for anchorage.

Shoal.—From Borovnjak point, a rocky bank with 2 fathoms water, extends a quarter of a mile southward.

Page 176. — Telephone. — There is a telephone station at Petrčani.

Plan, Port Zara, on chart 2774.

Port Zara. — Franz Josef mole is on the south-west side of the peninsula on which the town stands. It is 984 yards long, with 5 feet water alongside, and a mole in the middle of it is 87 yards long, with $14\frac{1}{2}$ feet water alongside.

Page 176 continued. Plan on chart 2774.

Buoys and beacons.—*Second* paragraph: *Cancel* "There are two other mooring buoys further up the harbour; also two warning buoys," and *substitute* "There is one mooring buoy further up the harbour."

Harbour works are in progress on a part of the shore in Port Zara, and steam vessels must pass them at very slow speed.

Page 177.—Zara town.—The population of the town was 14,376 in 1912.

Harbour regulations. — The signals for vessels leaving the harbour are now shown from an iron post erected on the south-west corner of the new mole, and the night signal is now a red, green, and white light placed vertically. The day signal is shown on a yard fixed to the upper part of the same post.

Page 178.—Current.—In the Zara channel the current sets north-west and south-east, with strong winds in those directions, and attains rates up to 3 miles an hour. The current must be guarded against when going alongside Franz Josef mole.

Tides.—It is high water, full and change, at Zara, at VIIh. 55m.; springs rise 6 inches.

Salvage.—*Cancel* paragraph.

Shipping.—In 1912, 4,554 steam vessels, of 1,180,540 tons, entered and cleared, and 241 sailing vessels, of 7,423 tons, entered the port of Zara.

Plan, Pasman strait, on chart 2774.

Page 179. — Lights. — Babac island. — The light on Babac island is exhibited from a stone tower on a hut, 25 feet high.

Cavata islet.—Light.—The light framework is in 1½ fathoms water, and is 32 feet high.

Directions.—Babac and Cavata lights in line, S. 29° E., clear the shoal off Brizine point and the 3-fathom patch north-westward of Babac, known as Gorzkowsky bank.

Tkon.—Light established.—A light is shown from a green lamp-post on the eastern molehead at Tkon.

Zara Vecchia.—The light is exhibited from a lamp-post, 19 feet high, and a sector is shown over Kocensko shoal.

Page 180.—S. Filippo e Giacomo.—Light established. —A light is exhibited from a green lamp-post, 16 feet high, on the head of the South mole of S. Filippo e Giacomo.

Chart 2774, Grossa island to Zirona channel.

Moll rock.—Light established.—*See* page 181.

Page 180 continued. Chart 2774.

Lights.—The following lights have been established between the south end of Pasman strait and Morter bay.

Babuljac island.—A light is exhibited from a red iron framework, 25 feet high, on the southern extreme of Babuljac island.

Pukostiane (Pakostane).—A light is exhibited from a lamp-post, 12 feet high, on the East molehead of Pukostiane harbour. The light cannot be lit during south-easterly gales.

Artice islets.—A light is exhibited, at 24 feet above high water, from a red pillar, with a platform, over a red cylindrical hut, 24 feet high, on the western side of the western Artice islet.

Kusia reef.—A light is exhibited from a red iron frame beacon on a concrete block, in 10 feet water, on Kusia reef, the bank connecting Great Arta island and the mainland, 350 yards north-eastward from the island.

Malaluka point.—A light is exhibited from a red iron framework, 24 feet high, on Malaluka point, the eastern point of Malaluka cove (or the western point of Velikoluka cove).

Tegine island.—A light is exhibited from a red iron framework, 22 feet high, on the bank close eastward of Tegine island.

Rat point. — A light is exhibited from a red iron framework, 22 feet high, on Rat point, the eastern point of the north entrance to Morter channel.

Page 181. — Kamicac rock (Moll rock [islet]). — Light established.—A light is exhibited from a lighthouse on Moll rock, off the north-west coast of Morter island.

Plan, Morter bay on sheet 1581.

Kukuljar islets.—Light.—The light is exhibited, at 42 feet above high water, from a platform and cage over a gasometer, 40 feet high.

Maslinak island.—Light established.—A light is exhibited from a red conical iron tower, 24 feet high, on the west point of Maslinak island, at the entrance to Morter bay.

Shoal.—A depth of 7 fathoms lies about 2 cables westward of the northern (85 feet) Drazomaski island.

Page 182.—Lights.—*Cancel* first paragraph, and *substitute*:—Lights are exhibited from lamp-posts on the buttresses of the swing bridge at Stretto, both showing red when the bridge is closed, and one red and one green when it is open.

Directions.—Line 4 of paragraph: *For* "$2\frac{1}{2}$" *read* "3," and *after* "water" *insert* "a shoal of $4\frac{1}{4}$ fathoms lies $1\frac{1}{2}$ cables south-eastward of the south point of Bisaza island, and depths of $3\frac{3}{4}$ fathoms to the eastward of Mimonjak island."

Plan 1581, Approaches to Port Sebenico.

Page 184.—Line 23: *For* "475" *read* "466."

Line 36: *For* "397" *read* "390."

Light.—Tiascica point.—*Cancel* both paragraphs, and *substitute*: A light is exhibited, at 39 feet above high water, from an iron post with a gallery over a gasometer, 26 feet high, about a cable north-westward of Tiascica point.

Page 185.—Lines 18 and 17 from bottom: *Cancel* paragraph; the sector on Tiascica point light covering Sestre bank has been discontinued.

Page 186.—There is a post and telegraph office at Luka, situated at the head of Luka harbour, on the south-eastern coast of Provicio island.

Line 5: *For* "$3\frac{1}{2}$" *read* "$3\frac{3}{4}$."

Trebocconi. — Light established. — A light is exhibited from an iron lamp-post, 18 feet high, on Trebocconi quay, in the north-western part of Vodice road.

Page 187.—An iron beacon.—*Omit* from "in 3 fathoms" to end of paragraph and *substitute*: "marks the south-western side of a rock, with 3 feet, which lies about $1\frac{1}{4}$ cables eastward of the South molehead, at Vodice, the 3-fathom line extends for $1\frac{1}{2}$ cables south-south-eastward of the beacon."

Srima bank. — Beacon. — *After* "shore" *insert* "about three-quarters of a cable from."

For "marked by" *read* "is situated."

Chart 2774, Grossa island to Zirona channel.

Page 187.—Krapano island.—Shoal water extends nearly half a mile south-westward of Krapano island.

Telegraph.—There is a telegraph office in Krapano harbour connected to the mainland by cable.

Plan 1581, Approaches to Port Sebenico.

Beacons.—There are two stone beacons on the bank extending north-westward from Krapano island; the eastern beacon is situated 7 cables north-westward of the north extreme of the island, and the western beacon 120 yards, S. 75° W., from the eastern beacon.

Page 188.—First paragraph: Kobila rocks are marked by a light-beacon, *see* Rocni rock.

Line 6: *Omit* from "Placena" to the end of paragraph, and *substitute*: "Paklena bank extends about $1\frac{1}{4}$ cables north-eastward within the south inner entrance points of the channel."

Page 188 continued. Plan 1581.

Lights.—*Cancel* section, and *substitute*:—

Lights.—Jadria point.—A light is exhibited, at 25 feet above high water, from an octagonal stone tower on a house, 27 feet high, on Jadria point, the southern end of the islet on the northern side of the entrance of San Antonio channel.

Rocni rock.—A light is exhibited, at 21 feet above high water, from a red post with platform on a cylindrical beacon, 23 feet high, on Rocni rock, the north-western Kobila rock.

Fort San Nicolo.—A light is exhibited, at 43 feet above high water, from the north-western side of Fort S. Nicolo wall.

Debela point.—A light is exhibited from a red pillar with a platform on a cylindrical hut, 22 feet high, on Debela point.

Senisna point.—A light is exhibited from a red iron post on a beacon, 15 feet high, in 16 feet water, off Senisna point.

S. Antonio point.—A light is exhibited from a red iron post, 14 feet high, on S. Antonio point.

Sta. Croce point.—A light is exhibited from a red iron post, 18 feet high, near the chapel on Sta. Croce (Kriz) point.

Paklena bank.—A light is exhibited from a red post with platform over a cylindrical hut, 22 feet high, situated in 3 feet water on the north-eastern part of Paklena bank.

Port Sebenico.—A light is exhibited from a lamp-post, 16 feet high, on the head of Port Sebenico mole.

Fog signal.—A fog signal has been established at Fort San Nicolo.

Lines 8 and 7 from bottom: *Omit* paragraph.

Beacon.—A beacon has been erected on the outer edge of the shoal extending from the coaling wharf at Port Sebenico, south-westward of the railway station.

Rock.—A rock with 3½ fathoms lies about 2 cables north-westward of Klobusac point, on the eastern side of the entrance to Maddalena bay.

Mooring buoys.—There are several mooring buoys in the port, *see* plan.

Traffic regulation.—The limits of San Antonio channel are defined by lines between Jadria point and Rocni rock light-beacon, on the west, and between Turan point and Paklena light-beacon, on the east.

Page 188 continued. Plan 1581.

Traffic through the channel is regulated by signals shown from Fort St. Anna and Fort St. Nicolo, those from the former station relating to out-going vessels, and those from the latter to in-coming.

Signals.—Two black balls, placed vertically, by day, or two *green* lights, placed vertically, at night, indicate that the channel is clear.

A red cone, by day, or two *red* lights, placed vertically, at night, indicate that the channel is closed.

Steam vessels of 200 tons gross tonnage and upwards, and sailing vessels of 100 tons and upwards, together with vessels in tow, when the length from the bow of the tug to the stern of the vessel towed exceeds 330 feet, if desirous of passing through the channel, must hoist by day the International code signal flag H, or at night exhibit two lights, placed vertically, the upper *red* and the lower *white*, such signals to be made by out-going vessels immediately before getting under way, and by in-coming vessels before arriving at the entrance to the channel.

Should a vessel disregard the above signals, the International code signal "M.N." will be hoisted, and a gun fired.

Vessels, other than those above referred to, can proceed through the channel, without regard to the signals, but must make way for those regulated by them.

Page 189.—Tides.—*Cancel* paragraph, and *substitute*:—

Tides.—It is high water, full and change, at Sebenico, at IVh. 38m.; springs rise 6 inches.

Sebenico.—The civil population of the town was about 13,000 in 1912.

Coal and supplies.—There are two electric travelling cranes on the coaling wharf for loading coal, and there are three lighters of from 10 to 15 tons. The water can be obtained from hydrants on the town quay.

Time signal.—A gun is fired at noon, Standard time, or 23h. 00m. 00s. Greenwich mean time, daily, from Sta. Anna station.

Wireless telegraph.—A wireless telegraph station at Sebenico is always open to the public; the call letters are O.H.B.

Shipping.—In 1912, 3,292 steam vessels, of 734,189 tons, and 511 sailing vessels, of 26,775 tons, entered the port of Sebenico.

Chart 2774, Grossa island to Zirona channel.

Page 190.—Kerka river is navigable to the foot of the falls.

Lake Proklian.—Lights established.—A light is exhibited from a red iron pillar, 14 feet high, on Vukinac point, the inner northern entrance point of the channel leading from Kerka inlet into Proklian lake.

Page 190 continued. Chart 2774.

A light is exhibited from a red iron post, 14 feet high, on Ostrica point, the southern entrance point of Kerka river, in Proklian lake.

Plan, Port Capočesto, on chart 2774.

Port Capočesto.—Light.—Kremik point.—The light on Kremik point is exhibited, at 33 feet above high water, from a red conical iron turret with a gallery, 28 feet high.

Light established.—A light is exhibited from an iron lamp-post, 16 feet high, on Capočesto molehead.

Plan, Port Rogoznica, on chart 2774.

Page 191.—Port Rogoznica.—The passage northward of Rogoznica islet is navigable, a ruined dam which obstructed it having been removed.

LIGHT. — The light on Point della Madonna is exhibited, at 50 feet above high water, from an iron lamp-post, 16 feet high.

Light established.—A light is exhibited from an iron lamp-post, 16 feet high, on the south-western end of the quays at Rogoznica.

Page 192.—Spaun rock.—Buoy.—A white conical buoy, surmounted by a spherical cage, is moored on the northern side of Spaun rock.

Chart 2774, Grossa island to Zirona channel.

Svilan islet lies about a mile north-westward of Spaun rock; a shoal with $2\frac{3}{4}$ fathoms water lies off its south-eastern end.

CHAPTER VII.

Chart 2712, Zirona channel to Curzola.

Page 193.—S. Arcangelo islet.—The tower and ruins of a chapel are on the eastern slope of the islet.

Beacon.—A black triangular framework beacon, surmounted by a square, stands on the summit of S. Arcangelo islet.

Page 194.—Port S. Giorgio.—Light established.—A light is exhibited from an iron lamp-post, 17 feet high, on the quay in Port S. Giorgio.

Page 195.—Galera islet.—Light.—The light is shown from a red conical iron turret.

Celini rock.—Light established.—A light is exhibited, at 49 feet above high water, from a red conical iron turret, with a gallery, 25 feet high, on the summit of Celini rock.

Bossiljina bay. — Lights established. — A light is exhibited from a red iron conical turret with a gallery, 25 feet high, on

Page 195 continued. Chart 2712.

Bossiljina point, which is situated on the southern side of Bossiljina bay about three-quarters of a mile from the head.

A light is exhibited from an iron lamp-post, 16 feet high, on the quay at Bossiljina.

Plan, Port Trau, on sheet 1612.

Soldan bay.—Shoal.—Shoal water of 2½ fathoms extends nearly a cable southward of Zubrian (Ciprian) point.

Page 196.—Trau channel.—The southern side of the channel, about 3 cables westward of the swing bridge, is marked by a buoy; the red beacon has been removed, and some of the stakes in the eastern entrance have been destroyed.

Lights.—*Cancel* first paragraph, and *substitute*: A light is exhibited from an iron support on a red house, 23 feet high, situated on the outer end of a pier extending 150 feet westward from Zubrian (Ciprian) point.

Chart 2712, Zirona channel to Curzola.

Page 197.—Galera islet.—Beacon.—*Cancel* second paragraph, and *substitute*:—

Scille rock.—Light established.—A light is exhibited from a red iron column, 20 feet high, in 9 feet water, on Scille rock, situated about 7½ cables eastward of Galera shoal beacon.

In the anchorage off Vranica village give a berth of 1½ cables to the rocks off the north shore.

Plan, Port Spalato, on sheet 1612.

Page 198.—Port Spalato.—Town.—The civil population of Spalato was about 13,000 in 1912.

Page 199.—Shipping.—In 1912, 5,443 steam vessels, of 1,593,208 tons, and 935 sailing vessels of 44,390 tons, entered the port of Spalato.

Telephone.—There is telephonic communication between Spalato and Trau, and there are call stations at the villages, Salona, Castel Susurac, Castel Vitturi (also a post and telegraph station), and Castel Vecchio.

Fog signal.—A fog signal has been established at the Outer molehead lighthouse at Spalato.

Miovo mole.—Light established.—A light is exhibited from an iron lamp-post, 19 feet high, on the north, and from a similar post on the south, outer corner of Miovo (S. Doimo) mole.

Prohibited anchorage.—Anchorage is prohibited in Port Spalato north-westward of a line joining S. Stefano point and the north-western extreme of Veneto (the inner eastern) mole.

Page 199 continued. Plan on sheet 1612.

Salvage.—*Cancel* paragraph.

Page 200.—Coal and supplies.—About 18,000 tons of English coal are imported annually; the depôt is near the Miovo mole. Good water can be obtained from ten hydrants on the quays.

Chart 2712, Zirona channel to Curzola.

Page 201.—Karober cove.—Light.—The light is shown from an iron hut, 20 feet high.

Stomoska (Stomorska) cove.—Light established.—A light is exhibited from an iron support on an iron hut, 26 feet high, on the western side of Stomoska cove, situated about $1\frac{3}{4}$ miles south-eastward of Port Sordo.

Telegraph.—There is a post and telegraph office at Stomoska.

Spalato passage.—Light established.—A light is exhibited from a red iron tower, 34 feet high, on Livka point, the eastern extreme of Solta island.

Plan, Almissa road, on sheet 1612.

Page 203.—Lights.—The lights are shown from an iron support, 15 feet high, in the piazza of the S. Francesco convent, and from a green lamp-post, 17 feet high, on Almissa molehead.

Mooring buoy.—A mooring buoy is placed 180 yards from the shore off Rad (Ratmali) village, about 9 cables southward of S. Francesco convent.

Plan, Port Makarska, on sheet 1612.

Page 204.—Port Marskala.—Mooring buoy.—There is a mooring buoy in Port Makarska.

Chart 2712, Zirona channel to Curzola.

Page 205.—Port Milna.—Lights.—The turret of Beaka point light is 25 feet high, and the inner light is shown from a lamp-post, 13 feet high, on the quay of Port Milna inner harbour.

Port S. Pietro.—Light.—The light on Port S. Pietro mole is shown from a red iron support on a hut.

Spliska cove. — Light established. — A light is exhibited from an iron lamp-post, 19 feet high, on the point on the eastern side of the entrance to Spliska cove, about $2\frac{1}{4}$ miles eastward of Port S. Pietro.

Pages 205, 206. — Port Pucisce. — Light. — The light on S. Nicolo point is shown from a square tower on a dwelling, 38 feet high, the lantern being elevated 66 feet above high water.

Chart 2713, Curzola to Cattaro.

Page 207.—Podgora cove.—Buoy.—A buoy is placed in 17 fathoms water, about 75 yards off the molehead in Podgora cove, near Luka village, $3\frac{3}{4}$ miles south-eastward of Makarska.

Plan, Approaches to Stagno Piccolo channel, on sheet 1582.

Cerkvice cove.—Light established.—A light is exhibited from a lamp-post, 17 feet high, on the head of the mole at Cerkvice cove, $5\frac{1}{4}$ miles south-eastward of Port Trappano.

Sreser shoal.—Beacon.—A stone obelisk, 16 feet high, and painted red and white in horizontal stripes, stands in $1\frac{1}{2}$ fathoms water on Sreser shoal, which is situated nearly half a mile south-south-westward of Gojak islet.

Plan, Port Tolero, on chart 2713.

Port Tolero.—Beacon.—The group of stakes near the edge of the sands midway between Port Tolero and Narenta river entrance has been destroyed (1913).

Page 210.—Narenta river.—Lights.—The light exhibited from the South molehead shows a sector over the entrance channel.

Line 7: *After* "buoys" *insert* "and one can buoy, all with top-marks and".

Directions.—Steam vessels in the river must go at a slow speed to avoid damaging the dikes.

Line 19 from bottom: *For* "$2\frac{1}{4}$" *read* "2."

Metkovic.—There is a telephone station at Metkovic.

Plan, Approaches to Stagno Piccolo channel, on sheet 1582.

Page 211.—Klek bay.—Lights.—The light on Montecuccoli rock is shown from a tower, 27 feet high, attached to a hut situated 12 yards within the south-eastern point of the rock.

Stagno Piccolo channel.—Lights established.—Lights are shown from an iron post, 25 feet high, on Celjen point, on the southern side of the channel $1\frac{1}{2}$ miles within Nedilja point; from an iron post, 23 feet high, on Mirna point, on the eastern side of Hodilje boat harbour; from a conical masonry beacon, 13 feet high, on Vranjak shoal; and from an iron post, 17 feet high, on Mali Vos point, on the north-eastern side of the channel opposite Stagno Piccolo.

Page 212.—First paragraph: The beacon on Vranjak shoal is now a light-beacon. *See* page 211.

Directions.—After passing Celjen point light-post, steer towards Mirna point light-post, until Vranjak light-beacon and Mali Vos light-post are in line; then towards and past Vranjak light-beacon, and east-south-eastward until near the shore, when steer south-south-eastward.

Plan, Spalmadori channel, on sheet 1612.

Page 213.—Cape Pellegrino.—Light established.—A light is exhibited, at 69 feet above high water, from a red conical tower, with a gallery, 36 feet high, on the northern point of Cape Pellegrino.

Plan, Citta Vecchia bay, on sheet 1612.

Citta Vecchia bay.—Light.—The light on Fortino point is shown from a red pillar over a red cylindrical hut, 22 feet high, with two red gasometers attached.

Light established. — A light is shown from an iron post, 17 feet high, at the western end of the quay at Citta Vecchia.

Buoy.—A *white* buoy is moored in 1½ fathoms water on the northern edge of a shoal close westward of the quay.

Plan, Ports Verboska and Gelsa, on sheet 1612.

Port Verboska.—Lights established.—Lights are shown from a red iron post, 14 feet high, on Croce point, about half a mile westward of Glavica point; and from a lamp-post, 15 feet high, on the eastern end of the quay at Verboska.

Page 214.—Port Gelsa.—Light established.—A light is exhibited from an iron standard, 15 feet high, on the south-eastern corner of the quay jetty in Port Gelsa.

Chart 2712, Zirona channel to Curzola.

Page 215.—Torcola island.—Light established.—A light is exhibited, at 66 feet above high water, from a circular red hut with a gallery, 32 feet high, situated on the coast of Torcola island, 2½ cables south-eastward of Maestro point, the south-west extreme of the island; a sector is shown over the Lukavci rocks.

Plan, Spalmadori channel, on sheet 1612.

Port Lesina. — Lights. — The lighthouse on Galisnik island is a white stone tower, 28 feet high, and the inner light is shown from a lamp-post, 19 feet high, on the south end of the quay on the eastern side of Port Lesina.

Page 217.—Directions.—Steam vessels leaving Port Lesina must not pass through the channel eastward of Galisnik islet.

Chart 2712, Zirona channel to Curzola.

Page 220.—Shipping.—In 1912, 2,001 steam vessels, of 281,524 tons, and 91 sailing vessels of 3,254 tons, entered Port S. Giorgio (Lissa).

Comisa bay. — Light established. — The breakwater in Comisa harbour is being extended, and an additional light is shown at the end of the works.

Tides.—It is high water, full and change, in Comisa bay, at 11h. 55m.; springs rise 6 inches.

CHAPTER VIII.

Chart 2713, Curzola to Cattaro.

Page 225. — Giuliana bay. — Alessandria islet. — Light established.—A light is exhibited, at 112 feet above high water, from a grey tower, 45 feet high, on the western point of Alessandria islet.

Port Terstenik.—There is only one mooring buoy off the mole.

Chart 2712, Zirona channel to Curzola.

Port Racisce.—A mooring buoy is placed in $4\frac{1}{2}$ fathoms water off the molehead.

Plan, Sabbioncello channel, on sheet 1611.

Page 226.—Lines 7 and 6 from bottom: *For* "nearly 3" *read* "$2\frac{3}{4}$."

Page 227.—Port Lombardo (Lombarda).—Light established.—A light is exhibited from a lamp-post, 18 feet high, on the head of the mole at Port Lombardo, on the north-east coast of Curzola island, about $1\frac{1}{4}$ miles westward of Cape Speo.

Sestrice islet. — Light. — The signal station on the north-western Sestrice islet is discontinued.

Chart 2712, Zirona channel to Curzola.

Page 228.—Proisd island.—Light established.—A light is exhibited, at 38 feet above high water, from a hexagonal tower, 26 feet high, on Proisd point, the western extreme of Proisd island.

Plan, Grande bay, on sheet 1611.

Page 229. — Grande (Vallegrande) bay. — Mooring buoy.—A mooring buoy is placed, in $3\frac{1}{2}$ fathoms water, off the quay at Valle Grande.

Kamenjak islet. — Light established. — A light is exhibited, at 32 feet above high water, from a hexagonal tower, 23 feet high, on the southern side of Kamenjak islet, situated about one mile north-westward of Ossiak islet.

Line 23 from bottom: *For* "$3\frac{1}{2}$" *read* "$3\frac{1}{4}$."

Light.—Vranac point.—The light on Vranac point is shown from an iron support with a hut, 19 feet high.

Valle Grande.—Quay.—Light established.—A light is exhibited from an iron post, 18 feet high, on the western end of Valle Grande quay.

Plan, Ports Carboni, Tre Pozzi, and Berna, on sheet 1611.

Page 231.—Port Berna.—Light established.—A light is exhibited from an iron post, 15 feet high, on Mali Zaglav point. The light is unreliable during south-easterly gales.

Chart 2712, Zirona channel to Curzola.

Page 232.—Markiara islet.—Rock.—A rock, about 100 yards in extent, with 5¾ fathoms water, and 15 fathoms close around, lies one mile S.S.W. ½ W. from Pod Markiara islet.

Page 233.—Lagosta.—Light established.—A light is exhibited from a green iron support on a hut, 23 feet high, on the end of the mole at S. Michele, Lagosta.

Plan, Port Palazzo, on chart 2713.

Page 237.—Kula rock.—Light established.—A light is exhibited, at 28 feet above high water, from a red iron post, 13 feet high, on Kula rock.

Chart 2713, Curzola to Cattaro.

Port Mezzo Meleda.—Lights.—The light on Pusta point is exhibited from a red iron post, 30 feet high.

Lines 2 and 1 from bottom: *Omit* paragraph.

Mezzo.—Telegraph.—There is a telegraph office in Mezzo village.

Page 241.—S. Andrea islet.—Light.—The lantern is elevated 226 feet above high water.

Page 242.—Great Stagno channel.—Lights established.—Lights are shown from pyramidal-shaped groups of piles, situated respectively about 3¼ cables and 7 cables west-north-westward of Brace (Broce). These lights mark the western part of a line of wood posts.

Chart 2713, Curzola to Cattaro.

Page 243.—Cannosa.—Light established.—A light is exhibited from a red cylindrical house with post and red platform, 18 feet high, on the inner end of Cannosa mole, Serdupina cove. The light cannot be lit during south-westerly gales.

Plan 3675, Port Gravosa and Ombla inlet.

Page 245.—Port Gravosa.—Buoys and beacons.—*Cancel* second paragraph of section, and *substitute*:—

There are two mooring buoys in the port for small steam vessels.

Lights.—*Cancel* section, and *substitute*: Lights are exhibited from a green iron support on a house, 23 feet high, on Cantafico point; and from an iron standard on a stone pedestal, 17 feet high, on the head of the new mole southward of Sta. Croce convent.

Telephone.—There is a telephone station at Gravosa.

Shipping.—In 1912, 1,854 steam vessels, of 896,721 tons, and 282 sailing vessels, of 20,920 tons, entered the port of Gravosa.

Plan 3675.

Page 246.—Gujiliste bank, about 50 yards in extent, with 5 fathoms water, and 7 to 14 fathoms around, lies about a cable northwestward of Gujiliste or Lapad point.

Plan, Ports of Ragusa, on sheet 1582.

Ragusa.—The civil population of Ragusa, including Gravosa, was 10,000 in 1912.

Telephone.—There is a telephone station at Ragusa.

Shipping.—In 1912, 1,072 steam vessels, of 189,126 tons, and 120 sailing vessels, of 3,411 tons, entered the port of Ragusa.

Lights.—The lights on Cassone and Pescaria moleheads are shown from green lamp-posts, 17 and 13 feet high, respectively.

Tides.—It is high water, full and change, at Ragusa, at IIIh. 47m.; springs rise 9 inches, neaps 6 inches.

Chart 2713, Curzola to Cattaro.

Page 247.—Kupari.—Mooring buoy.—A mooring buoy lies off Kupari village.

Plan, Ports of Ragusa Vecchia, on sheet 1582.

Page 248.—Ragusa Vecchia.—Buoy.—The white spar buoy marking the shoal with $1\frac{1}{4}$ fathoms water, is moored on its northern side.

Plan, Little Port Molonta, on sheet 1463.

Page 249.—Molonta islet.—A reef extends half a cable off the east coast of Molonta islet, and reefs surround the large rock northeastward of the islet.

CHAPTER IX.

Chart 2701, Gulf of Cattaro to Corfu.

Page 250.—Albanian coast.—Depths.—Less water has been found (1913) on the coast of Albania than is shown on the charts; when navigating in this locality, especially off the mouths of rivers, caution should be used.

Plan 1463, Approaches to Cattaro.

Page 251. [illegible]ndoni islet. — Light. — The light on Fort Mamula is [illegible]m a red stone turret with a gallery, 14 feet high, at an elevat[illegible]13 feet.

Mo[illegible]oy.—There is a mooring buoy about 2 cables northloni islet.

Plan, Meljine bay and Kumbor channel, on sheet 419.

Page 252.—Prohibited anchorages.—*Cancel* paragraph (*b*) and *substitute*:—

(*b*) In Kumbor channel in the area included between lines drawn S. 7° W. from Kumbor pier, and from Banic chapel.

Page 253.—Wireless telegraph.—There is a wireless telegraph station at Castelnuovo open to the public at all times. The call letters are O.H.C.

Telephone.—There is a telephone station at Castelnuovo.

Meljine bay.—There are three mooring buoys in Meljine bay.

Line 13 from bottom: *For* "cannot be shown" *read* "are unreliable."

Tides.—It is high water, full and change, at Meljine, at IIIh. 38m.; springs rise 9 inches, neaps 6 inches.

Page 254.—Beacon.—Light.—The beacon on Gjenovic shoal is a conical iron beacon, 17 feet high.

Plan, Teodo bay, on sheet 419.

Page 255.—Teodo.—Telephone.—There is a telephone station at Teodo.

Plan, Le Catene channel, on sheet 419.

Catene channel. — Lights. — The light on Turka point is shown from a red iron conical turret, 26 feet high.

Plan 1463, Port Molonta to Malaluka bay.

Page 256.—Risano.—Telephone.—There is a telephone station at Risano.

Risano. — Light established. — A light is exhibited, at 19 feet above high water, from a lamp-post, 16 feet high, on Risano molehead, in place of the occasional light formerly shown.

Plan, Cattaro harbour, on sheet 419.

Cattaro.—The civil population of Cattaro was 4,000 in 1912.

Page 257.—Telephone.—There is a telephone station at Cattaro.

Harbour works.—*Cancel* paragraph.

Lights.—Cattaro.—The light at Cattaro is exhibited at 21 feet above high water, from an iron standard on the north-western end of the quay.

Plan, Port Budua, on sheet 1463.

Page 259.—Line 14 from bottom: *For* "13 feet" *read* "12 to 13 feet."

Line 7 from bottom: *For* "13" *read* "12."

Page 259 continued. Plan 1463, Port Molonta to Malaluka bay.

S. Domenica.—Anchorage can be obtained north-westward of S. Domenica rock, with Lastua castle bearing N.E., distant a quarter of a mile.

Plan, Antivari roads, on sheet 1463.

Page 261.—Lights.—*Cancel* third paragraph of section.

Wireless telegraph.—*Expunge* paragraph.

Chart 2701, Gulf of Cattaro to Corfu.

Page 262. — Light. — The light exhibited on Menders point is unreliable.

Dulcigno.—Light established.—A light is exhibited, at 56 feet above high water, from the old fort on the coast at Dulcigno.

Landing can nearly always be effected at the mouth of the small river close eastward of Derana point, $1\frac{3}{4}$ miles south-eastward of Fort Dulcigno, whence Scutari can be reached by road.

Page 263.—Bojana river.—Bar.—The south-eastern entrance in June, 1914, was the deeper, and there was then a depth of about $4\frac{1}{2}$ feet on the bar. The seaward side of the bar is very steep, the depth decreasing from 5 fathoms to one fathom in about half a cable. Within the river it deepens gradually to 7 feet and more. The least water is on a narrow ridge about 50 yards across. The passage across the bar is marked by stakes (branches with a tuft of twigs or leaves at the top); there is always one in position and sometimes more, but there is no rule on which side to leave them.

The bar often breaks from a swell when it is practically calm at the anchorage, and a comparatively light local wind (force about 4) from seaward will quickly raise a surf. The sea on the bar rose very quickly and with little warning in June, 1914. A southerly wind increases the depth on the bar, but at the same time raises a sea.

The rise of the tide is about one foot, and the state of the tide influences the conditions on the bar considerably. There is good anchorage inside the bar anywhere seaward of Pulej in from 8 to 15 feet water, sand and mud.

There is a small boat channel, with about $1\frac{1}{2}$ feet water, to the eastward of the main channel over the bar, and the pilot states that a small boat can often get out this way, when the main channel is impassable; a pilot is necessary.

The river steamers can often pass the bar, when it is impracticable for boats, as they are made to take the ground, and, with their comparatively high sides, are not affected by breakers which would be dangerous for boats.

Page 263 continued. Chart 2701.

If it should be required to communicate with Scutari from the sea by river, much time might be saved by hiring one of these steamers as the possibility of delay from boats being inside and unable to come out is reduced.

The river.—The general depth in the channel of the river is over 8 feet (June, 1914), and the river presents no difficulty in navigating, as the probable position of the banks can, usually, be easily seen. A pilot is necessary for a stranger.

In the bends at Luargi and at Biela there are strong tide rips, and care is necessary in steering.

Several vessels were sunk in the river during the late war. There is a wreck below S. Giorgio, and several at the bend below Gorico hill; these must be avoided. In the reach above Gorico there are large shoals along the starboard side (going north-eastward), while about half-way along the reach there is a shallow (bar) which the pilot states has 3 feet water at low river; it had 5 feet in June, 1914. Above Oboti navigation of the river becomes more difficult, and just below Daragathe is a crossing with about 4½ feet water (June).

Where the Drinassa river runs into the Bojana there are considerable mud banks and islets covered with reeds and bushes; care is necessary here, particularly if towing boats, as the crossing is shallow (5 feet in June), and the current is very strong and sets across the channel, so that if caution is not used, the last boat of the tow may be thrown on the bank. Abreast the citadel the north-west bank is a cliff just at a turn; the current sets directly on to this cliff and forms a strong race, which also requires attention in steering.

Immediately above this two lines of stakes indicate the channel which then leads between two reed-covered islets. There are two sets of stakes, one on each side of the river; those on the eastern side are the ones to pass between.

There is anchorage either above or below the bridge, above it being the better as there is less current; steamboats' funnels and ensign staffs must be taken down to pass under the bridge, but for vessels that cannot go under one section is made to draw.

The pilot boat towing launch, two cutters, and a whaler, all laden, ascended the river in 7 hours, and returned in about 2½ hours.

The current was estimated at 2 knots in the lower reaches of the river, 3 knots at Oboti, and 4 knots just below Scutari. With a higher river the rate would be greater, and the pilot stated that it attains about 6 knots.

Pilots can be obtained at Pulej, or through the Harbour master at Port San Giovanni di Medua. The pilot for the mouth of the river lives at Pulej, and comes out to vessels; he was found to be trustworthy; the river pilots depend on this man for crossing the bar.

Page 263 continued. Chart 2701.

Pulej is a village of about a dozen houses, painted white, with red roofs.

An Albanian official, who acts as Health officer and generally as Captain of the Port, lives here.

The Roman Catholic church is a large white building on a small hill above the village.

There is a small pier abreast the Port office, with 5 feet water alongside its head.

San Nicolo village, on the west bank, is small, with a Greek church; a Montenegrin Health officer lives here.

San Giorgio.—A small tributary, the outlet from Lake Schass, joins the river at San Giorgio; at the junction is a corn mill with a tall chimney.

The hill at Luargi is a rocky knoll with scrub on the side.

Biela.—The hills on the south bank below, and on the west bank above Biela, are steep and rocky. There is very little cultivation below Biela, but a fair amount above it.

Oboti consists of a barracks, about eight stone houses, and some thatched cottages. Steamers frequently cannot get above this, and hulks are moored here for the river steamers to lie alongside and discharge their cargoes.

Two or three flat-bottomed lighters (about 60 feet by 15 feet) are kept here to take cargo to Scutari from vessels unable to proceed above this village.

Scutari.—The bridge over the Drinassa river has broken down. The water in the river on leaving Scutari lake was found suitable for use in steamboats' boilers.

Population.—The population of Scutari was about 37,000 in 1911.

Communication.—The telegraph lines were destroyed in the late war. A native messenger can be sent on horseback from San Nicolo to Scutari, and takes about five hours for the journey.

The Austrian and Italian steamers between them maintain almost a daily service.

Supplies.—A limited supply of native bread can be obtained at about 5d. a lb.; this bread, which is dried, is dipped into water before eating and is quite good. Small quantities of eggs and poultry can also be procured.

Bojana anchorage.—In approaching the anchorage off the mouth of the river, Pulej shows very clearly with the large white church just inside it. The 102-foot hill near San Nicolo is noticeable as it rises above the surrounding trees, and is covered with

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St. Giovanni point lighthouse, N. 23° E., distant 5 cables.

Page 263 continued. Chart 2701.

bushes and large bare patches of red earth, the latter being conspicuous. The 82-foot hill near Pulej is not noticeable.

Anchorage has been obtained in 12 fathoms, mud and good holding ground, with Pulej bearing N. ½ W., distant 3 miles.

Plan, San Giovanni di Medua, on 1463.

Page 264. — Port San Giovanni di Medua. — There is a patch above water near the eastern edge of the shallow bank projecting eastward from San Giovanni point.

Two beacons mark the edge of the bank:—A staff, painted red and white in horizontal stripes and surmounted by a globe, on the eastern edge of the bank near the dry patch, from which a light is shown; and a staff, surmounted by a triangle, marks the northern side of the bank.

A beacon, a staff only, marks the north-eastern side of the entrance.

On the hill side close to and above the lighthouse is a large yellow barracks with a red roof, and there are two other houses on this point visible from the south-westward; the barracks can be seen from a considerable distance.

On the hill behind the port, and about three-quarters of a mile north-eastward of the lighthouse, is a white wooden cross on a white stone pyramid.

Light.—The light on San Giovanni point is shown from a white staff on top of a white house with a red roof; close to it is the small white keeper's house, with a red roof. *See* view.

Mooring buoys.—Two red mooring buoys are placed close together on the northern bank of the port; a vessel anchors and lays out a stern hawser to the buoys.

Boat piers.—The pier near the Custom-house has 10 feet water at its outer end, and is strong enough for steamboats to go alongside. Immediately southward of it are two small piers for light boats. On the shore near the position of San Giovanni church is a light pier with 3 feet water at its head.

Water can be obtained from a well near the position of San Giovanni church; it is said to be good, but water obtained from the stream, or near it, at the head of the port is bad.

Communication.—Vessels of the Austrian Lloyd Societa in Azioni, Ungaro-Croata di Navigazione, Societa Anonima di Navigazione a Vapore, "Puglia" bari, call at Port San Giovanni di Medua regularly.

The road to Scutari, viâ Alessio, is good enough to be used by motor-cars and lorries.

Telegraph.—A telegraph cable has been laid between S. Giovanni di Medua and Brindisi.

Plan 1590, Durazzo bay.

Page 266. — Durazzo bay. — Town. — The population of the town of Durazzo was about 8,000 in 1911.

Light.—The light at Durazzo is shown from a white steel skeleton mast with a red top, 51 feet high.

Conspicuous objects.—The following are conspicuous:—The trees in the Palace gardens near the light-mast; a round tower on the hill above the town; a church to westward of the tower, white, with a red roof, and small white cupola; and the minaret at the mosque.

Pier.—There is a wooden pier with 5 feet of water alongside.

Water.—Shore water is from surface wells, and must be boiled before use.

Health.—Malaria is prevalent in summer, and Europeans suffer from bowel complaints.

Chart 2701, Gulf of Cattaro to Corfu.

Page 267. — Light. — Samana point. — The lights are exhibited from a white iron mast, 52 feet high, with a dwelling near, about 3 cables from the south-western side of Samana point.

Plan of Valona bay on 1589.

Page 268.—Saseno island.—Light.—The light is exhibited, at 328 feet above high water, from a white stone tower, 44 feet high, in the middle of the south-western side of a white dwelling, on the west coast of Saseno island, about half a mile from the north-west point.

San Nicolo bay.—Light and beacon established.—A light is shown from the top of a white building on the shore near the root of the mole at S. Nicolo di Saseno, and an iron beacon, with a spherical topmark, painted white, stands on the head of the mole.

Page 269.—Buoy.—The white buoy off Skala has disappeared.

CHAPTER X.

Chart 2701, Gulf of Cattaro to Corfu.

Page 273.—Georgantas shoal, about 200 feet long north-east and south-west, and 20 feet broad, with 1¼ fathoms water, lies about half a mile off-shore, with Lukovo chapel, which is situated 5¼ miles southward of Fort Borsi, bearing N. 54° E., distant 1¼ miles.

Plan 206, Channels to Corfu.

Santa Quaranta bay.—There is a stone pier, with deep water alongside, on the shore of the bay.

Plan 206.

Pages 273, 274.—Margin.—*Cancel* "Plan of Butrinto bay on sheet 1455."

Page 274.—Butrinto bay.—*Cancel* second paragraph, and *substitute*:—

There is anchorage in the bay in 14 to 16 fathoms water, stiff clay, with the point just southward of Cape Scala in line with Point S. Stephano, N by W. ½ W., and the Custom house, a building with a flagstaff on a high spur open northward of the ruined fort of Votemi, in the middle of a marsh, N.E. by E. This is considered the best anchorage on the coast, but caution must be used in its approach, as the water shoals suddenly from 12 fathoms.

Butrinto river bar can only be crossed by boats.

Page 275.—A Custom-house is situated on the shore of a small bay, 1½ miles north-westward of Pagania North cape.

Page 281.—Corfu island.—The population of Corfu, according to the census of 1907, was 94,451.

Trade.—In 1912 the value of the exports was £398,461, and that of the imports £250,749. The value of the exports in 1913 was £77,014, the decrease being accounted for by there being no olive crop this year, the crop occurring every other year only. In 1914, 1,306 vessels of 1,317,868 tons, entered and cleared the port of Corfu.

Page 282.—Tignoso islet.—Light.—The lighthouse on Tignoso islet is a white circular tower.

Plan 1450, Corfu road.

Page 283.—Corfu town.—The church, situated about 2 cables west-south-westward of Point S. Nicolo, has a white tower, with a red roof; it is not conspicuous from the anchorage.

About 70 yards eastward of the church just mentioned is a white tower with a large red dome and gallery.

A high white stone chimney, with factory buildings attached, is situated at Kefalo mandukio, to the westward of Corfu town.

Breakwater.—Work on the proposed breakwater off Mandukio, shown by dotted lines on the plan has not been commenced (1913).

Page 284.—Light established.—A light is shown on a lamp-post at the entrance to the Citadel moat.

Corfu road.—There is a fixed crane at the Custom-house quay, capable of lifting weights up to 4 tons, and two smaller 2-ton cranes.

Mooring buoy.—A white mooring buoy has been placed near Point S. Nikolo. Permission must be obtained for a vessel to moor to the buoy for more than six hours from the Captain of the Port, and the buoy must be quitted at his request.

Signal station.—There is a signal station at the citadel.

Page 284 continued. Plan 1450.

Vido island.—Light.—A light is exhibited from the pier at the landing place on Vido island when the steam ferry boat is running.

Chart 206, Channels of Corfu.

Page 285.—Lefkimo point.—Lights.—*Cancel* second paragraph. The occasional light at the Salternes in Lefkimo bay has been discontinued.

Third paragraph: The light on the middle of the pier on the southern side of Potami river is exhibited from an iron column.

Page 289.—Paxo island.—Light.—*Cancel* paragraph. The lighthouse at Laka point was totally destroyed by a landslip in 1913.

CHAPTER XI.

Plan 1591, Prevesa strait.

Page 295.—Prevesa.—The population of the town of Prevesa was about 7,000 in 1911.

Trade.—In 1911 the value of the imports into Prevesa was £44,000, and that of the exports from the town £80,000. In the same year, 724 steam vessels, of 137,082 tons, and 84 sailing vessels, of 2,502 tons, entered the port.

Plan 1609, Roadstead of St. Maura.

Page 303.—Santa Maura.—The population of the island was 29,471 in 1907.

Page 304.—Telegraph cable.—The telegraph cable crosses the canal just southward of the lighthouse between a small shed on each side.

The harbour of Santa Maura is a basin about 275 yards long, and 200 yards wide. The channel to the harbour is along the causeway connecting the mole to the town; there are depths of 12 feet nearly the whole way along the causeway, but shoal water extends from 10 to 30 yards from the stone wall. There are depths of from 13 to 16 feet in the harbour, and of 11 to 13 feet alongside the jetty. The Custom and Health offices are south of the jetty.

Mail steamers to and from Patras call here regularly five times a week, passing through the canal.

Santa Maura canal.—*Cancel* paragraph, and *substitute*:—

Santa Maura canal, between Santa Maura island and the mainland, runs southward from Santa Maura roadstead to Port Drepano, and is navigable by vessels of 14 feet draught, the depth in the middle of the canal being maintained by dredging to 14½ feet. The canal is dredged through mud-flats and shoals; it is about 3¼ miles

Page 304 continued. Plan 1609.

long, 32 yards wide at the surface, and 16 yards at the bottom; its channel is clearly defined throughout by the colour of the water, which is light yellow in the deepest part and dark green on the shallows. The water in the canal falls with northerly winds, and rises with southerly winds, to the extent of about one foot; the movement of the water depends also on the winds.

The north entrance to the canal from Santa Maura harbour is marked by a small red disc beacon on the western side, and the eastern side is marked by the stone wall, 2 feet high, which continues southward to Paleo Khalia.

Shoal water extends from 10 to 15 yards off the stone wall the whole way.

A small red disc beacon is situated at the south end of the northern salterns, and a small cage beacon just northward of the end of the stone wall, both on the western side of the canal.

Between the two salterns a mud swamp, covered with seaweed, runs back towards the island, and Ruin islet is noticeable in the middle.

Paleo Khalia is marked by a group of four grey low houses. Off Paleo Khalia the canal is marked on the eastern side by a small red can mooring buoy and a beacon; southward of the beacon shoal water extends to the islet south-westward of Paleo Khalia. Thence the canal has a bank, 2 feet high, marked by stakes, on the western side, and the islet, with a small spit of shingle and stone to the northward, on the eastern side.

At the south end of the islet, and separated from it, is a pile of stones, abreast which, on the western side, is Red Hut point, with a pile of stones on the extreme, and 13 feet water close-to.

From these piles of stones the canal continues straight to its south entrance, and a pair of small red can mooring buoys, one on each side, are moored about 300 yards southward of Red Hut point, and midway between these buoys and the southern entrance is a similar pair.

The south entrance to the canal, which has about 4 fathoms water, is marked by a white stone pillar, about 4 feet high, on the eastern side, and a small red can mooring buoy on the western side; the width here is about 60 yards.

The remains of ancient moles extend from Observatory island on the east, to the stone pillar, and from the coast of Santa Maura island eastward to the red buoy; these remains are covered with from 8 to 10 feet water.

The stone wall on the eastern side of the canal is gradually crumbling away, being damaged by the wash from passing vessels.

There is a depth of 15 feet water alongside the quay on the eastern side abreast the citadel.

There are no regulations for entering or leaving the canal; in a

Page 304 continued. Plan 1609.

vessel of any size it would be proper, before entering, to ascertain if any other vessel has entered from the opposite end.

There is a charge of 10 centesimi for every ton for vessels passing through the canal, vessels of war being exempt.

Floating bridge.—A floating bridge, worked by a hand winch and wire, crosses the canal just southward of the citadel; the wire is sunk on a vessel's approach; notice should be given by steam whistle.

The old channel, with from 7 to 13 feet water, is entered from the canal at the northern gap in the stone wall, opposite a wooden bridge with three arches, and trends southward through mud swamps, which are covered with about one foot water and thick seaweed. It crosses the canal, trending south-westward, through a break in the stone wall southward of the northern salterns, and then continues southward parallel to the canal, but separated from it by a bank, until near the south end of the stone wall, where it again crosses the canal, trending south-eastward. Thence the channel passes close south-westward of Paleo Khalia, eastward of the islet, and enters the canal between the two pairs of red buoys. Sailing vessels use this channel when the wind is less favourable in the canal; there is anchorage off Paleo Khalia, where there is a small pier.

Chart 206, Sta. Maura, Ithaca, and Cephalonia channels.

Vasilico bay.—Light.—*Cancel* paragraph.

Plan, Meganisi channel, on sheet 1620.

Page 306.—Meganisi island.—Elia point.—Light established.—A light is exhibited from an iron column, 25 feet high, with its lower part surrounded by a white wall having a red band, on Elia point, the south-eastern entrance point of Port Atheni.

Petallis islet is 29 feet high.

Page 307.—Tiglia islet is 130 feet high.

Page 308.—Port Drepano.—*Cancel* second paragraph, and *substitute*:—

Fort S. Giorgios stands on a hill, 150 feet high, at the head of the bay; it is white and conspicuous. Observatory (Volios) islet, 16 feet high, lies off the western base of the hill. For submerged moles, beacon, and buoy, *see* Santa Maura canal, page 304.

There is anchorage at the head of the port in 7 to 12 fathoms water, good holding ground, south-westward of S. Giorgios fort. The inner anchorage extends about 2 cables northward of the western submerged mole, and has from 2½ to 3¼ fathoms water; it is used by small craft loading with salt.

Page 308 continued. Plan 1609.

Observatory islet.—Light established.—A light is shown from a masonry column, 11 feet high, on Observatory islet.

Directions.—In entering Port Drepano bay, leave the *red* sector of Observatory island light to the eastward, and when anchoring at the head of the bay do not bring the *green* light eastward of N. 35° E.

Santa Maura canal.—Directions.—*Cancel* this section. *See* page 304.

Kephali point.—Light (intended).—A light is to be exhibited from Kephali point.

Page 309.—Miaulis rock.—Observatory islet light is obscured over this rock.

Chart 3496, Scropha point to Cape Kamilafka.

Page 311.—Formicula islet.—Light established.—A light is shown from a white iron beacon tower, with a red band, on a concrete base, 10 feet high; situated on the summit of Formicula islet.

Page 312.—Kaloyeros island.—Light established.—A light is shown from a white iron tower on a concrete base, 10 feet high, situated on the 128-feet summit, near the northern end of Kaloyeros island.

Page 313.—Filipos island is 93 feet, and Pistros island 145 feet, high.

Page 314.—Dragamesti bay.—Directions.—*Cancel* first paragraph, and *substitute*:—

Directions.—From the westward, approach with the middle of the passage, between Cape Turkovekla and the north point of Kaloyeros island, bearing E. by S., which leads northward of Prasa shoal, southward of Venerable banks, and midway between Grant and Davy banks.

Plan 1939, Dragamesti bay and approaches.

Astokos.—Light established.—A light is exhibited from a stone pillar, surmounted by an iron ladder-shaped structure, on Astokos pierhead.

Page 315.—*Cancel* " Plan on 1455 " in margin.

Glosa Pogonias (Snipe point).—Beacon.—A small red beacon, 5 feet high, stands on the south extreme of the point.

Port Plateali.—Clearing marks.—*Cancel* first paragraph, and *substitute*:—

Clearing marks.—The summit of Oxia island in line with the eastern extreme of Pondiko island, S. 5° E., leads one cable westward of the shoal off Glosa Pogonias, and 2 cables eastward of Day rock (view on plan 1939). Stenigonia white beacon, on the south-eastern

Page 315 continued. Plan 1939.

side of Port Plateali entrance, in line with the red beacon on Carlo Glosa, S. 48° E., leads south-westward of the shoal off Glosa Pogonias, and north-eastward of Day rock.

Plan 3485, Port Plateali.

Light established.—A light is shown on the south side of the entrance to Port Plateali, in a position about 25 yards northward from the Stenigonia white beacon.

Page 316.—*Cancel* "Plan 1455" in margin.

Directions.—Carlo Glosa beacon is red (not black and white).

Petala island.—Beacon.—A white stone beacon stands on Aspro point, the south extreme of the island.

Page 317.—Channel eastward of Pondiko.—Shag rock in line with the north-west point of Petala bears S. 5° W. (not S. 5° E.).

Chart 3496, Scropha point to Cape Kamilafka.

Page 318.—At night, after losing sight of Oxia light, Oxia peak, Makri peak, Vromona island, Stamothi island, and the summits of Petala island, are usually noticeable; it is difficult to recognise the other islands from any distance.

From northward of Makri island, steer for the eastern extreme of Pondiko island, bearing N.E. by N., until the north extreme of Petala island bears S.E. by E., or until the west extreme of Pondiko island is in line with the east extreme of Provati island. Then steer N.E. by E. until the north-eastern extreme of Pondiko island bears N.W. by N., when steer about N. by E. to avoid Pondiko shoal.

Current.—A current, setting north-north-westward, has been frequently experienced at the southern entrance to this channel.

Page 319.—Kunelli islet.—Light established.—A light is shown from a white iron beacon tower on a concrete base, 9 feet high, on the summit of Kunelli islet, near the mouth of the river Aspro-Potamo.

Chart 203, Santa Maura, Ithaca, and Cephalonia islands.

Page 320. — Cephalonia. — The population of Cephalonia was 71,235 in 1907.

Trade.—In 1912 the value of the exports from Cephalonia was £222,915, and that of the imports £253,466.

Page 321.—Guiscardo point.—Besides the present lighthouse, there is an old lighthouse on Guiscardo point; it is a round tower, about 30 feet high (above sea level), with an open firegrate on top. On the slight rise within Guiscardo point is an old square ruin, which is conspicuous from the southward.

Light. — The lighthouse on Guiscardo point is not conspicuous, there being a hill behind it.

Chart 203.

Page 322.—Cape Dekalia.—Light established.—A light is exhibited, at 75 feet above high water, from a metal column on a dwelling, on Cape Dekalia.

Page 323.—Light (intended).—A light, with a sector covering Kakova shoal, is to be established on Cape Kapri.

Plan 1557, Port Argostoli.

Page 325.—S. Nikolaos banks.—Clearing marks.—*Cancel* paragraph, and *substitute*:—

Clearing marks.—Argostoli signal station in line with Lardigo point, N. 22° E., leads westward, and Cape Gherogambo lighthouse, just open south-westward of Vardiani lighthouse, N. 50° W., leads south-eastward of S. Nikolaos banks.

Vardiani island lighthouse is yellow in colour.

Page 326.—Buoy.—*Cancel* paragraph. The buoy 6½ cables, S. ½ E., from S. Giorgios point, has been removed.

Caution.—*Cancel* paragraph.

Page 327.—Buoy.—*Cancel* paragraph. The buoy moored with San Theodoro point lighthouse bearing S. ½ E., distant 1¼ cables, has been removed.

Light.—Port Argostoli.—The light on San Theodoro point is exhibited, at 36 feet above high water, from an openwork tripod with lamp on top, 27 feet high.

Directions.—*Cancel* paragraph, and *substitute*:—

Directions.—Pass not less than 3 cables westward of S. Theodoro point, and give the north-western and northern coasts of Argostoli promontory a berth of a quarter of a mile. Vardiani island lighthouse in line with S. Georgios point, S. 28° W., leads westward of the shoal water off S. Theodoro point, and the blue belfry of the Greek cemetery church open north-eastward of Argostoli promontory, S. 56° E., is a mark for turning eastward (passing northward of the shoal water extending from S. Theodoro point), and into the harbour.

Lixuri. — Light established. — A light is exhibited, at 10 feet above high water, from the North molehead.

Page 328.—Livadi bay.—There is a wooden pier for boats on the north-western shore of the bay. The marshes here are intersected by wide deep creeks.

Argostoli.—The harbour.—*Cancel* second paragraph, and *substitute*:—

The harbour is about 6 cables wide at the entrance, and narrows towards the head. The west shore is bordered by shoal water to the distance of 1½ cables, and must be given a sufficient berth. The pro-

Page 328 continued. Plan 1557.

jecting points of the east shore of Livadi bay in line with Kokkinos Vrachos, N. 14° W., astern, lead up the bay, in from 11 to 10 fathoms water, until the British Consulate bears S. 84° W., when a large vessel should anchor.

Light-beacon established.—A light is exhibited, at 9 feet above high water, from a stone beacon in the form of a truncated pyramid, surmounted by a lamp-post, in 2½ fathoms water, about 1½ cables eastward of the shore at the northern end of the town.

The town. — The British Consulate, prison, a statue, and the French and American Consulates, are conspicuous.

Trade.—In 1914, 74 vessels, of 86,408 tons, entered and cleared the port of Argostoli. In the same year the value of the exports was £188,791, and that of the imports £271,050.

Hospital.—A new hospital, with 200 beds, is situated about a cable southward of the British Consulate; it is a noticeable building of white stone with a red roof.

The anchorage.—*Cancel* first paragraph, and *substitute*:—

The anchorage is about 3½ cables eastward of the British Consulate, in 10 fathoms water, mud and good holding ground; moderate-sized vessels go further in, and anchor nearer the eastern shore. The Greek church, with its belfry painted blue and white, and the windmills near the Protestant cemetery on the south-eastern shore, are good marks. With strong southerly winds vessels anchor under the lee of S. Theodoro point.

Chart 203, Santa Maura, Ithaca, and Cephalonia islands.

Page 329.—Cape Gheroghambo.—Light.—The lighthouse on Cape Gheroghambo is yellow in colour and does not show distinctly.

Page 331.—Ithaca.—The population of Ithaca was 11,715 in 1906.

St. Nikolo point.—Light.—A light is shown on St. Nikolo point, near the north end of Ithaca island.

Plan, Gulf of Molo and Port Vathi, on sheet 1620.

Page 333.—Port Vathi.—There is a pier, with 6 feet water alongside, on the north-eastern shore of the port, just southward of the point charted eastward of the Prison islet, which point apparently does not exist.

The main landing pier, close to the Police and Health office, has 6 feet water alongside.

There are bollards along the sea front from the main landing pier to a position southward of the Prison islet, and thence there are ring bolts on the shore of the bay westward of the islet

Page 333 continued. Plan on sheet 1620.

A wharf.—*Cancel* paragraph.

Anchorage is reserved for men-of-war in the bay westward of the Prison islet; it is recommended by the Captain of the Port (1912) as being the best-sheltered position from the heavy south-west to north-west squalls. The bottom is steep-to along the shore of this bay, 6 fathoms being obtained within 25 yards in many places.

Vessels anchored here should be secured by the stern to the ring bolts above mentioned, which are good and sunk in 9 feet of concrete and rubble; the holding ground is good.

Wind.—The wind usually freshens about 4h. p.m., and lasts, with heavy north-westerly squalls from the mountains, till about 8h. p.m.

CHAPTER XII.

Chart 207, West coast of Morea, &c.

Page 334.—Zante.—The population of Zante was approximately 38,000 in 1912; the census was taken in 1907, when it was 42,502.

Cape Skinari light should be seen from a distance of 21 miles.

Plan 1762, Zante bay.

Page 335.—Krionero point.—Light.—The lighthouse is a quadrangular stone tower with a dwelling, 25 feet in height.

Dimitri shoal.—Buoy.—*Cancel* paragraph, and *substitute*:

Buoy.—A white buoy is sometimes moored about half a cable north-eastward of Dimitri shoal.

Page 336.—Caution.—*Cancel* paragraph.

Telegraph cables.—Buoys.—There is now only one buoy marking the telegraph cables; it is moored about 7 cables north-eastward of the mole light.

Add to **Caution.**—The area in which anchorage is prohibited is marked by a pecked line on the plan.

Zante town.—The population of the town of Zante was 15,780 in 1907.

Page 337.—Trade.—In 1914 the value of the imports at the port of Zante was £30,489, and that of the exports £131,060. In the same year 80 vessels of 120,494 tons entered and cleared the port.

Chart 207, West coast of Morea, &c.

Montague rocks.—Clearing marks.—Cape Katakolo in line with Cape Trepito, S. 32° E., leads nearly 1½ miles north-eastward of the rocks.

Plan 1676, Gulf of Patras and approaches.

Page 341.—Bukari point.—Light.—*Cancel* paragraph. The light has been discontinued.

Plan 427, Entrance to the Gulf of Corinth.

Page 342.—Light.—The light on Anti Rhion point is shown from a round masonry tower on the south bastion of Anti Rhion fort (Rumelia castle).

Rhion (Morea castle).—Light established.—A light is exhibited from an iron column on the north-eastern part of Morea castle, Rhion.

Plan 1225, Patras roads.

Page 343.—Patras roads.—Moorings.—*Cancel* paragraph.

Lights.—The light on S. Nicolas molehead is difficult to distinguish from the town lights.

Page 344.—Pilots.—There appears to be no necessity of communicating with the Captain of the Port before entering.

Directions.—The castle in ruins on the hill at the back of the town is not red.

Town.—The approximate population of Patras was 38,000 in 1913.

Coal and supplies.—*Cancel* paragraph, and *substitute*:—

Coal and supplies.—There are usually about 2,000 tons of coal in stock. There is no coaling wharf, but from 200 to 350 tons can be put on board a vessel from hulks and lighters in 24 hours. It should be noted that when coal is ordered to be ready in lighters for a vessel previous to her arrival, some of it is often dropped overboard in shallow water at night. The water is not fit for drinking. Provisions are obtainable.

Trade.—In 1913, 90 British steam vessels, of 252,090 tons, entered the port.

Steam vessels of the Cunard and Ellerman lines leave Liverpool fortnightly for Patras direct, and the Cunard Company have established an emigration service by some of its largest vessels between Patras and New York.

Plan 427, Entrance to the Gulf of Corinth.

Page 346.—Naupaktos.—Light established.—A light is exhibited from an iron column, 25 feet high, on the eastern side of the boat harbour entrance.

Morno point light is shown from a white iron obelisk on a concrete base.

Chart 1600, Gulf of Corinth.

Page 348.—Eratini.—Light established.—A light is exhibited from Eratini village.

Plan 221, Ports Galaxidi and Itea.

Page 350.—Port Galaxidi.—Light established.—A light is exhibited from a wooden post on the wharf at Galaxidi.

Page 353.—*Cancel* "Plan of Corinth bay on 1367" in margin.

Page 354.—*Cancel* "Plan of Corinth bay and isthmus, 1367" in margin, and *substitute* "Chart 1600, Gulf of Corinth."

Cancel "Plan of Corinth road on 2021" in margin, and *substitute* "Plan, Corinth roads on chart 1600."

Cancel "Plans 2021, 1637" in margin abreast **Corinth canal,** and *substitute*: "Chart 1600, and plans, Corinth roads and Kalamaki bay."

Chart 1600, and plans, Corinth roads, and Kalamaki bay.

Page 355.—Corinth canal.—The railway bridge over the canal is 144 feet clear above the water.

Lights.—The pairs of electric lights on either side of the canal are placed about 218 yards apart.

Cancel "Plans 1637, 2021" in margin, and *substitute* "Chart 1600 with plans."

Directions.—*Cancel* second paragraph, and *substitute*:—

Current.—Signals.—Signals indicating the current are exhibited from the signal mast at each end of the canal, thus:—

By day, two triangular white flags, and at night, two lights, placed vertically, the upper *red* and the lower *white*, indicate that the current is entering the canal from that end.

By day, a white triangular flag, and at night, two *red* lights, placed vertically, indicates that the current is going out of the canal from that end.

No signal at the signal mast indicates no current.

Traffic.—In 1914, the total number of steamers passing through the Corinth canal was 2,446, of 939,082 tons aggregate, 43 of 46,474 tons being British, 1,423 sailing vessels, of 46,474 tons, also made use of the canal.

Page 356.—*Cancel* "Plans 1367, 2021" in margin, and *substitute*: "Chart 1600."

Passage restricted.—Vessels are prohibited from passing through the canal between 6h. p.m. and 6h. a.m. until further notice, in consequence of a landslip; passage at other times is permitted as usual.

Page 356 continued. Chart 1600.

Regulations.—The following additional regulations have been made by the New Corinth Canal Society (1909):—

On entering and leaving the canal the speed should be reduced to 5 knots in order to avoid damages to vessels anchored in the ports of Poseidon and Isthmia, or to the ferry boats.

The charge for towage in the canal by the society, with the means at its disposal, is for vessels of from 50 to 150 tons 34 francs, of from 150 to 500 tons 50 francs, of over 500 tons 50 francs for the first 500 tons and for every ton above 500 tons ·005 franc per ton, without any responsibility to the society.

The society has the right to enforce towage for all vessels over 800 tons.

Pilots are placed at the disposition of captains of vessels intending to go through the canal at a charge of 1½ centimes per ton, with a minimum charge of 10 francs. The pilots give the captains their experience and knowledge of the canal, but the captains are responsible for their vessels taking the ground, or for any other accident whatever.

The charges for going through the canal are: For vessels of war, mail steam vessels, and yachts, under 200 tons, for every ton, coasting trade and Adriatic, one franc gold; Mediterranean, 0·6 franc. From 200 to 500 tons as for 200 tons with for every ton above 200 tons, coasting, 0·7 franc; Adriatic, 0·4 franc; Mediterranean, 0·3 franc. Over 500 tons as for 500 tons with for every ton above 500 tons, 0·1 franc.

Cargo steam vessels under 200 tons, for every ton, coasting and Adriatic, one franc; Mediterranean, 0·6 franc. From 200 to 500 tons as for 200 tons with for every ton over 200 tons, coasting, 0·7 franc; Adriatic, 0·3 franc; Mediterranean, 0·2 franc. Over 500 tons as for 500 tons with for every ton above 500 tons, 0·1 franc.

The minimum charge for steam vessels is 20 francs gold.

Ferry boats are established near each end of the canal, one at Poseidonia, and the other at Isthmia.

Plan, Vostitza bay, on sheet 463.

Page 357.—Vostitza bay.—The population of the town of Vostitza was about 7,850 in 1913.

Chart 207, West coast of Morea.

Page 359.—Glarenza.—Light.—*Cancel* paragraph, and *substitute*:—

Light.—A light is exhibited from an iron pillar on the coast about 3 cables south-eastward of Cape Glarenza.

Page 359 continued. Chart 207.

The mole, 2½ cables eastward of the light, and from which the light was formerly exhibited, has been partially destroyed, and its submerged portion constitutes a danger to navigation; in entering the bay, therefore, pass 3 cables eastward of the light.

Plan, Methoni, on chart 207.

Page 365.—Methoni.—Mole.—*Cancel* paragraph, and *substitute*:—

Mole.—The marble pillar is connected to Kastelli Methoni by a mole, and a mole extends about half a cable eastward from the marble pillar, forming a shelter to the northward for small vessels.

Light.—The *red fixed* light is exhibited from the eastern end of the mole.

Plan 682, Gulf of Kalamata.

Page 366. — Sapienza island. — Light. — The lighthouse on Sapienza island is 24 feet high, and the centre of the lantern is elevated 361 feet above high water.

Plan, Koroni anchorage, on chart 207.

Page 369.—Koroni bay.—Light.—The lighthouse on Koroni mole has been destroyed by the sea (1914).

Chart 1685, Venetico island to Spezzia island.

Page 371. — The coast. — Skardamula village. — *Cancel* "Skardamula" and *substitute* "Kardamili."

Khardamili.—The light is shown from a lamp-post on a stone base, 20 feet high.

Chart 3372, Gulf of Lakonikos.

Page 373. — Cape Matapan. — Light. — The centre of the lantern of Cape Matapan light is elevated 134 feet above high water.

APPENDIX II.

List of Principal Ports, showing particulars of depths, &c.

Port.	Depth at M.L.W.S. in channel of approach.	Depth at M.L.W.S. in anchorage.	Rise of Tide.		Remarks.
			Spgs.	Nps.	
			Feet	Feet	
Argostoli	15 fms.	7 to 13 fms.	—	—	Anchorage 5 miles long and one mile broad.
Brindisi harbour—					
Outer road.....	10 fms.	7 to 9 fms.....	—	—	Open northward and north-eastward.
Inner road	5 fms.	5½ to 6 fms. ..	—	—	Open eastward.
Inner harbour	5 fms.	4½ to 5½ fms.	—	—	Landlocked.
Cattaro, Gulf of	15 fms.	5 to 15 fms. ..	—	—	Anchorages in Topla and Teodo bays and at head.
Corfu road	18 fms.	10 to 16 fms...	—	—	Anchorage 2 miles long and half a mile broad.
Fiume	30 fms.	9 to 24 fms. ..	¾	½	
Plateali (Platea)	15 fms.	10 to 14 fms...	¾	—	Sheltered anchorage 5 cables long and 3 cables broad.
Pola	17 fms.	6 to 16 fms. ..	1¼	¾	Sheltered.
Trieste: Outer bay ..	11 fms.	10 fms.	2¼	1¼	Open westward.
Franz Josef harbour..	10 fms.	8 to 10 fms. ..	2¼	1¼	Sheltered by breakwaters.
Venice: Port Lido ..	25 feet	23 feet	4	2¼	
Port Malamocco	27 feet	25 to 28 feet..	4	2¼	27 feet of water in the channels to Venice.

APPENDIX III.

Particulars of Dry Docks, Patent Slips, &c.

Port.	Name of Dock.	Length.		Breadth of Entrance.	Depth at M.H.W.S.		Springs Rise.	Lifting Power.	Date Built.	Remarks.
		On Blocks.	Over all.		On Sill.	On Blocks.				
		Feet	Feet	Feet	Feet	Feet	Feet	Tons		
Brindisi	*Floating*	—	—	—	—	—	—	*7,000*	—	*Under construction.*
Venice	Government, No. 1 ..	488	524	80	25½	—	4	—	1878	
	„ No. 2 ..	272	295	59	19½	—	—	—	—	
	Dry dock	*774*	*754*	*118*	*39*	—	—	—	—	*Building.*
		810	*820*	*Caisson in outer stop.*			—	—	—	
	Floating dock	—	365	61	—	22	—	4,500	—	In the Giudecca channel.
Trieste	Austrian Lloyds	446	456	68	19	18	2¼	—	—	
	„ „	—	360	54	18⅔	—	—	—	—	
	San Rocco	394	414	66†	26	22½	—	—	—	† At coping.
	Floating (Stabilimento Tecnico)	196⅔	196⅔	55¾	—	—	—	2,000	1894	
	Monfalcone—									
	Floating No. 1	450	450	85	31½	28	—	12,000	—	
	„ No. 2	—	—	55¾	—	—	—	1,500	—	
	Patent Slip	150 (Cradle)	—	—	Forward	6	—	450	—	
					Aft	14	—	—	—	
Pola	Government No. 1 ..	418	452	82½	27	—	1¼	—	—	
		447	Caisson in outer stop.			—	—	—	—	
	„ No. 2 ..	411	450	91	29	—	—	—	—	
	Floating No. 1	—	300	82	—	20	—	600	—	
	„ No. 2	455½	460½	85	37	33	—	15,000	—	
	„ *No. 3*	—	—	—	—	—	—	*40,000*	—	*Building.*
	„ New	—	584¾	111½	41	37	—	22,500	—	
	T.B. No. 1 floating ..	—	100¾	29 1/12	—	16	—	900	—	
	„ *No. 2* „ ..	—	—	—	—	—	—	*1,000*	—	*Building.*
Fiume	Floating, Government	—	247⅓	65 7/12	—	22	¾	3,750	—	
	„ Whitehead ..	—	229⅔	49¼	20	—	—	1,300	—	

APPENDIX IV.

Places (spots) where reliable magnetic observations have been made, and which should, if practicable, be re-occupied when making future observations.

Place.	Lat. and Long.	Position.
Argostoli..	38° 11′ 36″ N. 20° 27′ 45″ E.	50 yards East from San Theodoro point lighthouse.
Corfu	39° 38′ 0″ N. 19° 56′ 0″ E.	Vido island, summit. Citadel lighthouse vane 169° 16′ true. Tower 246° 28′ true. House on islet 294° 2′ true.
Navarin ..	36° 56′ 24″ N. 21° 42′ 57″ E.	Midway between two small but conspicuous trees, 10 yards apart, situated on the beach 325° true, 1⅛ cables from the bridge over Xerias river. Transits :— (1) ⊰ Marathonisi open just to the left of Mount Ælias. (2) ⊰ Large yellow house just open to right of distant mountain. (3) Summit of cone-shaped mountain midway between two conspicuous houses on plain.
Patras ..	38° 15′ 15″ N. 21° 44′ 10″ E.	On breakwater about 100 yards from north end. Transit : Light staff on N. mole in line with right-hand window of square yellow house. Distant peak 211° 36′ 50″ true.
Plateali ..	38° 28′ 38″ N. 21° 6′ 54″ E.	Spot marked by a stone with X cut on it. On line of Western pier, and 327½ feet from inner end. Nearest corner of pink-coloured house, 166½ feet to the westward. Conspicuous tree, 43 feet to the eastward. Beacon on Vromona summit 216° 36′ 18″ true.
Zante	37° 46′ 41″ N. 20° 54′ 12″ E.	On beach just above high water mark ; about 60 yards south-eastward of San Caralambo. Transits :— (1) Post about 180 yards from end of breakwater in line with ⊰ Cape Krionero lighthouse. (2) San Dionisio tower in line with ⊰ white church on side of hill.

APPENDIX V.

A list giving the numbers and titles of all Charts and Plans published or withdrawn from publication since the issue of the Mediterranean Pilot, Vol. III., Fourth Edition, 1908.

CHARTS OR PLANS PUBLISHED.

No. 1600 Plans of Corinth roads and Kalamati bay added.

CHARTS OR PLANS WITHDRAWN.

No. 1367 Corinth bay.

„ 2021 Corinth roads, Kalamati bay.

INDEX TO NEW NAMES.

The paging refers to the Mediterranean Pilot, Vol. III.

SUPPLEMENT No. 3,

1916,

RELATING TO THE

MEDITERRANEAN PILOT, VOL. IV.

FOURTH EDITION,

1908.

(CORRECTED TO 7TH APRIL, 1916.)

PUBLISHED BY ORDER OF THE LORDS COMMISSIONERS OF THE ADMIRALTY.

LONDON:
PRINTED FOR THE HYDROGRAPHIC DEPARTMENT, ADMIRALTY,
UNDER THE AUTHORITY OF HIS MAJESTY'S STATIONERY OFFICE,
BY TAYLOR, GARNETT, EVANS, & Co., LTD.,
ALSO AT MANCHESTER AND READING;
AND TO BE OBTAINED FROM
J. D. POTTER, AGENT FOR THE SALE OF ADMIRALTY CHARTS,
145, MINORIES, E.C.

1916.

Gratis to purchasers of the Mediterranean Pilot, Vol. IV.

CAUTION WHEN APPROACHING BRITISH PORTS.

(To be inserted inside cover of all Sailing Directions.)

PART I.—CLOSING OF PORTS.

(1) My Lords Commissioners of the Admiralty having taken into consideration the fact that it may be necessary to forbid all entrance to certain ports of the Empire, this is to give Notice that on approaching the shores of the United Kingdom, or any port of the British Empire, a sharp lookout should be kept for the signals described in the following paragraph, and for the vessels mentioned in paragraph (4), Part II., of this Notice, and the distinguishing and other signals made by them. In the event of such signals being displayed, the port should be approached with great caution, as it may be apprehended that obstructions may exist.

(2) If entrance to a port is prohibited, three *red* vertical lights by night, or three *red* vertical balls by day, will be exhibited in some conspicuous position in or near to its approach, which signals will also be shown by the vessels indicated in paragraph (4), Part II., of this Notice.

If these signals are displayed, vessels must either proceed to the position marked "Examination Anchorage" on the Admiralty Charts and anchor there, or keep the sea.

PART II.—EXAMINATION SERVICE.

(3) Under certain circumstances, it may become necessary to take special measures to examine vessels desiring to enter the ports or localities at home or abroad, referred to in Notices to Mariners No. 1 of 1916 and subsequent years.

(4) In such case, vessels carrying the distinguishing flags or lights mentioned in paragraph (6) will be charged with the duty of examining ships which desire to enter the ports and of allotting positions in which they shall anchor. If Government vessels, or vessels belonging to the local port authority, are found patrolling in the offing, merchant vessels are advised to communicate with such vessels with a view to obtaining information as to the course on which they should approach the Examination Anchorage. Such communication will not be necessary in cases where the pilot on board has already received this information from the local authorities.

(5) As the institution of the Examination Service at any port will never be publicly advertised, especial care should be taken in approaching the ports, by day or night, to keep a sharp lookout for any vessel carrying the flags or lights mentioned in paragraph (6), and to be ready to "bring to" at once when hailed by her or warned by the firing of a gun or sound rocket.

In entering by night serious delay and risk will be avoided if four efficient all-round lamps, two *red* and two *white*, are kept available for use.

(6) By day the distinguishing flags of the Examination Steamer will be a special flag (white and red horizontal surrounded by a blue border) and a blue ensign.

Also, three *red* vertical balls if the port is closed.

By night the steamer will carry: (*a*) Three *red* vertical lights if the port is closed; (*b*) three *white* vertical lights if the port is open.

The above lights will be carried in addition to the ordinary navigation lights, and will show an unbroken light around the horizon.

(7) Masters are warned that, when approaching a British port where the Examination Service is in force, they must have the distinguishing signal of their vessel ready to hoist immediately the Examination Steamer makes the signal.

(8) Masters are warned that, before attempting to enter any of these ports when the Examination Service is in force, they must in their own interests strictly obey all instructions as to entry given to them by the Examination Steamer. In the absence of any instructions from the Examination Steamer they must proceed to the position marked "Examination Anchorage" on the Admiralty Charts, and anchor there, or keep the sea.

Whilst at anchor in the Examination Anchorage, Masters are warned that they must not lower any boats (except to avoid accident), communicate with the shore, work cables, move the ship, or permit anyone to leave the ship, without permission from the Examination Steamer.

(9) In case of fog, Masters of vessels are enjoined to use the utmost care, and the Examination Anchorage itself should be approached with caution.

(10) Merchant vessels when approaching British ports are specially cautioned against making use of private signals of any description, either by day or night: the use of them will render a vessel liable to be fired on.

(11) The pilots attached to the ports will be acquainted with the regulations to be followed.

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1916.

Gratis to purchasers of the Mediterranean Pilot, Vol. IV.

ADVERTISEMENT TO THE SUPPLEMENT No. 3.

This Supplement No. 3, compiled by Commander E. V. Brooke-Webb, R.N., contains all the information received in the Hydrographic Department of the Admiralty relating to the Mediterranean Pilot, Vol. IV., Fourth Edition, since its publication in 1908, and is derived from the Reports by Officers of His Majesty's Navy and Foreign Governments, and various other sources.

The principal dimensions of all dry docks, patent slips, &c., the available depths into the principal ports, and a list of spots suitable for magnetic observations, included in the limits of Mediterranean Pilot, Vol. IV., have been inserted as Appendices.

All details regarding lights and fog signals have been omitted; for these the Admiralty List of Lights should be consulted.

It must be remembered that during the present state of hostilities many of the aids to navigation referred to in Mediterranean Pilot, Vol. IV., and this Supplement, have been modified or withdrawn without notice.

Supplement (2), 1914, and all Notices to Mariners relating to the above work, up to and including No. 423 of 1916, are hereby cancelled.

J. F. PARRY.

Captain, R.N.,
and Hydrographer.

Hydrographic Department,
Admiralty, London,
27th April, 1916.

(1551) Wt. 4226/23. 4,000.—5/16. T.G.E.

The existence of this Supplement No. 3 is to be entered on the opening pages of the Mediterranean Pilot, Vol. IV. The information in it is to be carefully considered.

One copy is to be retained intact for reference, notations referring to it being made in the pages of Mediterranean Pilot, Vol. IV.; the other copy may be cut up, if considered desirable, the slips being pasted in the volume at the appropriate place.

SUPPLEMENT No. 3,

1916,

RELATING TO

MEDITERRANEAN PILOT, VOL. IV.

FOURTH EDITION,

1908.

(CORRECTED TO 7TH APRIL, 1916.)

The several paragraphs follow the order of the paging of the Mediterranean Pilot, Vol. IV., the pages referred to being given in the text.

(All bearings are Magnetic.)

GENERAL NAVIGATION.

Page xxi.—*Insert* new section 15:—

15. *Concise Rules for Revolving Storms*—

1. Revolving storms are so named because the wind in these storms revolves round an area of low pressure situated in the centre. They have also local names, and are termed hurricanes in the West Indies and South Pacific ocean; cyclones in the Indian ocean, Bay of Bengal, and Arabian sea; and typhoons in the China sea.

2. In these storms the wind always revolves the same way in the same part of the world, that is, against the movement of the hands of

Page xxi. *continued.*

a watch in the northern hemisphere, and with the hands of a watch in the southern hemisphere. The wind does not revolve in circles, but has a spiral movement, inwards, towards the centre.

3. Revolving storms have also, as a general rule, a progressive movement. Within the tropics they usually move from east to west at first, and then curve towards the pole of the hemisphere in which the storm is generated, and afterwards move from west to east.

4. The track which the centre of the storm takes is called the path of the storm, and the portion of the storm-field on the right of the path is known as the right-hand semicircle, and that on the left as the left-hand semicircle of the storm.

5. In the right-hand semicircle, if the observer be stationary, the wind will always shift to the right, and in the left-hand semicircle to the left. This law holds good in both hemispheres.

6. If a vessel be so situated in a storm that running before the wind the path of the advancing storm will be crossed, this is considered to be the dangerous semicircle. This will always be the right-hand semicircle in the northern hemisphere, and the left-hand in the southern.

7. These storms are most frequent in the northern hemisphere from July to November, and in the southern hemisphere from December to May. In the Bay of Bengal and Arabian sea they, however, occur most frequently about the time of the change of the monsoon.

8. The area over which revolving storms have been known to extend varies in diameter from 20 miles to some hundreds of miles, and their rate of movement in the West Indies averages about 300 miles a day; in the China sea, Bay of Bengal, and Arabian sea about 200 miles a day; and in the Indian ocean from 0 to 200 miles a day, the more stationary storms occurring at the beginning and end of the hurricane season.

9. The indications of the approach of a revolving storm are (1) an unsteady barometer, or even a cessation in the diurnal range, which is constant in settled weather; (2) a heavy swell not caused by the wind then blowing; (3) an ugly, threatening appearance of the sky.

10. In order to judge what is the best way to act if there is reason to believe a storm is approaching, the seaman requires to know (*a*) in which direction the centre of the storm is situated, (*b*) in which semicircle the ship is situated.

11. As these points cannot be determined if a vessel is moving with any speed through the water, the first proceeding should be to "stop" or "heave to," and, as it is always best to assume, at first, that the vessel may be in the dangerous semicircle, she should be hove to on the starboard tack in the northern hemisphere, and on the port tack in the southern.

Page xxi. *continued.*

12. If an observer faces the wind the centre of the storm will be from 12 to 8 points on his right hand in the northern hemisphere, and on his left hand in the southern hemisphere; 12 points when the storm begins; about 10 points when the barometer has fallen three-tenths of an inch, and about 8 points when it has fallen six-tenths of an inch or upwards.

13. If the wind shifts to the right the vessel is in the right-hand semicircle, if to the left in the left-hand semicircle, and, if the wind is steady in direction, but increasing in force, she is in the direct path of the storm.

14. If the seaman has reason to think that his vessel is in the direct path of the storm he should run with the wind on the starboard quarter in the northern, and on the port quarter in the southern, hemisphere until the barometer has ceased falling. If she is in the right-hand semicircle in the northern hemisphere she should remain hove to on the starboard tack, but if in the southern hemisphere run with the wind on the port quarter; if she is in the left-hand semicircle in the northern hemisphere she should run with the wind on the starboard quarter, but if in the southern hemisphere remain hove to on the port tack.

15. Should a vessel not have sufficient room to run when in the least dangerous semicircle, she should heave to on the port tack in the northern, and on the starboard tack in the southern, hemisphere.

16. If in a harbour or at anchor the seaman should be just as careful in watching the shifting of the wind and ascertaining the direction of the centre, as by so doing he will be able to tell on which side of the path of the storm he is situated, and be able to act according to circumstances.

17. Should the centre of a storm pass over a vessel, the wind, after blowing furiously in one direction, ceases for a time, and then blows with equal fury from the opposite direction. This makes a confused pyramidal sea, which is especially dangerous.

CHAPTER I.

Page 2.—Greek currency.—*After* "gold coins very rare" *add* "and are all foreign."

Delete "The lowest note is one drachma and."

Insert "Silver coins of one and 2 drachma are issued."

Greek weights and measures.—The system is as follows:

400 drams	=	1 oke
44 okes		1 cantar
18 cantars		1 ton
1 kilo of wheat		22 okes
1 botza		2 okes
48 okes		1 Greek barrel

Page 2 continued.

The following are the equivalents of the Greek in English weights and measures :—

9 Greek drams	=	1 oz. (avoir.)
1 oke		45 ozs.
39½ okes		1 imperial cwt.
18 cantars		1 ton
1 kilo		1 bushel
$3\frac{8}{20}$ okes		1 imperial gallon
$3\frac{7}{8}$ stremmas		1 acre
1 pike (land measure)		25½ inches
1 pike (cloth measure)		27 inches
1 royal pike		1 French metre

Pages 2 and 3.—Turkish currency.—The currency, with its English equivalents, is as follows :—

1*l.*T. (Turkish lira, pound or sovereign)	=	18*s.* 2*d.*
1*l.*T.		100 gold pias
1*l.*		$1\frac{1}{10}$*l.*T.
10*l.*		11*l.*T.
1*l.*T.		$5\frac{8}{19}$ medjidiehs (about)
1*l.*		6 medjidiehs
1 medjidieh		19 silver pias
1*l.*T.		102 to 104 silver pias
1 pias .. .. = 40 paras ..		$2\frac{1}{3}$*d.*
1 metalic .. 10 „ ..		½*d.* (about)

Page 3.—Turkish weights and measures.—The system, with its English equivalents, is as follows :—

1 oke	=	400 drams ..	=	2·83 lbs.
1 kantar or quintal ..		44 okes ..		124 lbs.
1 ton		1,016 kilos ..		792 okes
1 cwt.		50·80 kilos ..		39·62 okes
1 kileh (bushel)				17 to 22 okes*

*According to specific gravity of cereals measured.

Communication.—Railways.—The total length of lines open in Greece at the end of 1912 was 900 miles.

In Asia Minor, the railway from Smyrna now extends beyond Konia to Karapuna, thence, with two breaks, where the line has not been completed, to Aleppo, with branches to Mersina and Alexandretta. Eastward of Aleppo the line extends to Harran, a distance of about 150 miles on the way to Bagdad.

Steamships.—During 1912, considerable additions were made to the Greek merchant fleet, which now numbers 389 ships, amounting to a total tonnage of over 690,000 tons.

Page 3 continued.

Motor boats and launches have been imported, almost wholly supplied by the United Kingdom. The shipping at Peiræus is, roughly, three-fifths of the total for the whole of Greece.

Turkey.—Buoyage system.—The starboard side of a channel is that side which would lie on the starboard hand of a ship approaching from seaward. That side of the channel which would lie on the port hand of a ship approaching the channel is consequently the port side of the channel.

Red conical buoys will be placed on the starboard side, and white can buoys on the port side of a channel or strait.

Small red and white spherical buoys, fitted with staffs, will be placed on shoals which occur in the middle of a channel or strait, and which can be passed on both sides by shipping.

Spherical buoys placed on a shoal lying in the middle of a channel will be furnished, depending on their condition, either with a red cylinder or other topmark.

In the case of a channel or strait which cannot conveniently be buoyed on both sides, a single row of either red or white buoys will be laid down. Some of the buoys forming this row may be conical and others can buoys. In order to enable the buoys inside the channel to be easily seen and distinguished, a beacon buoy will be placed at the entrance of the channel, where the nature of the background renders this necessary; the topmark will be entirely red, and the buoy red or white, according as it lies in the line of buoys marking the starboard or port side of the channel.

In the case of winding channels and inlets containing numerous and extensive shoals, where the fairway for shipping may be considered as divided into a number of disconnected zones, beacon buoys will be placed at the extremities of each zone, in order that the limits may be clearly perceived, and a reliable guide to shipping afforded.

As regards the fairway, both the topmarks and the other parts of the buoys on the starboard side must be painted red. On the port side, the topmarks red and their other parts white. The topmarks of the beacons on the shoals in the fairway, which can be passed on both sides by shipping, must be entirely red, the other parts being painted with horizontal red and white stripes.

The topmarks belonging to one zone will be distinguished from those of other zones by their form. In places of this kind light-buoys and fixed beacons of peculiar colour, and carrying special topmarks, can be used.

Reckoning from the entrance to the channel, the buoys on the starboard side will have odd numbers painted on them in black, and those on the port side even numbers. On the starboard side of a channel or strait a red-coloured staff or pole beacon, or an uncoloured mast beacon, will be placed. On the port side a white-coloured

Page 3 continued.

beacon without a staff, or an uncoloured perch beacon (the branched stump of a tree).

On shoals situated outside a channel, spar buoys, beacon buoys, any kind of buoy fitted with a staff, or fixed beacons will be placed on the shoal or in its vicinity. These buoys, with their topmarks, will always be painted red. The fixed beacons will have, as a rule, red topmarks, the remainder of the beacon, as occasion may require, will be painted white or red. Where their position renders it necessary, shoals will in some cases be marked by bell-buoys, light-buoys or whistle-buoys. If it is only necessary to mark shoals on one side, as in the case of shoals extending from the shore, beacons either without topmarks or carrying special ones will be used.

Topmarks are used to indicate the direction in which the shoal lies. In the case of exceedingly small shoals, situated either inside or outside the channel, where it is not considered necessary to surround them with buoys, and where shipping can approach close to the beacons, the topmark will be a cylinder of height equal to its diameter. While this topmark may also be carried by a buoy marking a sunken vessel, it may not be used in any other place

In the case of an extensive shoal, situated inside or outside the channel where it is considered necessary to place buoys, they will carry topmarks as described below:—

On a buoy or beacon on the north side of shoal	Two conical topmarks, each point upwards.
On a buoy or beacon on the south side of shoal	Two conical topmarks, each point downwards.
On a buoy or beacon on the east side of shoal	Two conical topmarks, points away from each other.
On a buoy or beacon on the west side of shoal	Two conical topmarks, points towards each other.

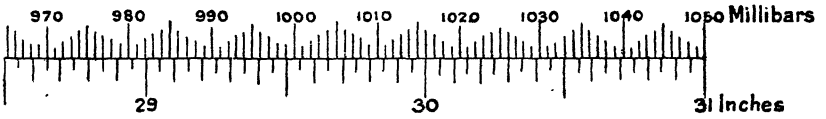
To indicate the position of a submerged wreck, conical buoys, truncated conical buoys, or cask or barrel buoys will be used; they will be painted green, and have in Turkish the word for "Wreck" written on them in white. These wreck buoys will carry a staff, and, according to their position, will exhibit a cylindrical topmark, or the conical shapes mentioned above.

To mark the position of telegraph cables green spherical buoys are used. On these buoys the word for "Telegraph" or the equivalent for letter "T" will be painted in white in Turkish character.

In order to indicate the limits of quarantine areas, yellow buoys or conical beacons must be used.

In order to denote the limits of areas temporarily closed to shipping, while appropriated for experiments or practice from guns and torpedoes, yellow cask or barrel buoys, fitted with small pennants, will be used.

Page 7.—Barometer.—The graduation of barometric scales in millibars having now been largely introduced, the accompanying diagram is inserted to enable the mariner to convert millibars into inches, and vice versâ.



CHAPTER II.

Chart 1685, Venetico island to Spezzia island.

Page 11.—Cape Matapan.—Line 3 of paragraph: *For* "3" *read* "4."

Margin: Latitude *should read* "36° 23′ N."

Page 12.—Margin: Latitude *should read* "36° 23′ N."

Page 13.—Margin: Latitude *should read* "36° 24′ N."

Chart 3372, Gulf of Lakonikos.

Page 17.—Mulaos point.—Light.—A light is exhibited from an iron column, above a hut, situated on the head of the mole on the eastern side of Mulaos point.

Chart 1685, Venetico island to Spezzia island.

Page 29.—Port Ieraka.—A church, which forms a useful mark when making Port Ieraka, is situated on the summit north-west of Cape Vathi.

Chart 2836a, Grecian archipelago.

Page 30.—Line 11 from bottom: *For* **"Falconera"** *read* **"Phalconera** (Falconera)."

Chart 1308, Head of Gulf of Nauplia.

Page 32.—Line 4: *After* "Custom-house" *insert* "which has recently been lengthened, and a channel to the quay has been dredged to a depth of about 21 feet."

Buoy.—*Omit* this paragraph.

CHAPTER III.

Chart 1525, Hydra bay.

Page 38.—Disaki island consists of two separate parts, cut through at the narrowest place.

Page 42.—Hydra bay.—*After* "already named," at the end of paragraph, *insert* "and a shoal off Supia island."

Shoal.—At a distance of 4½ cables, S. 68° W., from the south-west point of Supia islet, is a rocky shoal, about 30 yards in extent, with 2½ fathoms of water on it, and deep water around, with depths of 10 to 12 fathoms for a distance of 2 cables between it and the shore.

Plan 1517, Poros island.

Page 45.—Port Pogon.—The anchorage, as affording the best holding ground, is situated with Obelisk point bearing E.S.E., distant about 2½ cables.

Plan of Ægina on 1816.

Page 48.—Lights.—*After* "mole at Ægina," at end of paragraph, *add* "and a light is shown on the head of the south-eastern mole."

Chart 1514, Ægina and Methana.

Page 49.—Moni island.—Light.—A white iron tower over a white house stands on the west extreme of the island, from which a light is exhibited at an elevation of 75 feet.

Page 50.—Chart 2021 has been withdrawn.

Chart 1367, Corinth bay and isthmus.

Page 51.—Corinth canal is the shortest way for vessels sailing from the Adriatic sea and ports of France and Italy to the Ægean sea and ports in Turkey, Bulgaria, Rumania, Russia, and Asia Minor. The prevailing winds in the canal are north-west (or in the direction of the canal), next follows an east wind, and lastly north. These require much attention when entering from the Poseidonia side. All ships towed must furnish their own hawsers.

Page 52.—Current signals.—The following signals are shown from the flagstaff at each end of the canal:—

In the daytime, two triangular white flags, or at night a *red* light over a *white* light, signify that the current follows the same direction as the entering ship.

In the daytime, a triangular white flag, or at night two vertical *red* lights, signify that the current is opposite to the direction of the entering ship.

No current signal at all at the flagstaff signifies that there is no current.

Chart 1513, Athens to the Isthmus of Corinth.

Page 53.—Megara bay.—Anchorage may be obtained north-eastward of Paki island, but the water is deep. Pakiaki is joined to the mainland by a causeway, alongside which steamers lie.

Plan 894, Salamis strait and Georgio channel.

Page 55.—Buoys.—The Georgio channel is marked by three conical buoys on each side.

Plan 1520, Peiræus and Phalerum bay.

Page 56.—The Peiræus.—The bank in the centre of the port has been dredged to a depth of 27½ feet.

Line 8 of paragraph: *For* "24 feet" *read* "21 feet."

Plan 1520.

Page 57.—Peiræus.—Breakwaters.—The northern breakwater has been repaired.

Saluting battery spit.—*Omit* paragraph. The saluting battery no longer exists.

Line 10: *For* "Saluting battery spit" *read* "the spit extending from the point on the northern side of the inner entrance to the harbour."

Lights.—*Omit* first three lines of paragraph, and *substitute*:—

"About 22 yards within the extremity of Themistocles breakwater, two lights, placed vertically, are shown. Ships should pass at not less than 45 yards from the said lights, in order to avoid the end of the breakwater."

Line 8 of paragraph: *For* "the Saluting battery spit" *read* "the spit on the northern side of the inner entrance to the harbour."

Docks and repairing facilities.—There are two dry docks, also a floating dock at Salamis (distant some 7 miles), the property of Government, and a patent slip, situated at the harbour entrance. For details, *see* Appendix I.

The workshops attached to the patent slip are fitted with the latest plant. There are seven engineering and repairing shops established, and of these three are of importance, and capable of carrying out almost any class of marine work. There are four floating cranes, one at least capable of lifting 10 tons.

Pier.—*Erase* "north shore" to end of paragraph, and *substitute* "north-western shore of the inner harbour."

Pages 57 and 58.—Cape Themistocles and Cara Krakari breakwaters are also known as Roi Georges I. breakwaters.

Page 58.—Line 6: *For* "Saluting battery" *read* "at the entrance to the inner harbour."

Page 59.—Phalerum bay.—Light.—A light is exhibited from a red beacon erected in 15 feet of water, situated about 2 cables from the shore southward of Actaeon hotel. This beacon marks the outfall from the condensing station.

Port Castela.—Light.—A light is exhibited from an iron staff on the north side of the entrance to the port.

Pier.—On the western side of Port Castela is a stone pier about 100 feet long.

Landmarks.—*Add* to paragraph "and a conspicuous white house about midway between Cape Colias and Kosma point." *Erase* "Two houses with conspicuous turrets," to end of paragraph.

Anchorage.—The best anchorage is reported to be S. ½ W. from Actaeon hotel, distant 8 cables. To the eastward the ground is hard, and the ship may drag.

Chart 1513, Athens to the Isthmus of Corinth.

Page 60.—Kosma point.—At a distance of about $2\frac{3}{4}$ cables, S. 68° W., from the south-western extreme of Kosma point, is a rock with 5 feet of water on it.

Plan of Port Mandri, &c., on 1526.

Page 62.—Wreck.—*Erase* paragraph, and *substitute*:—

The wreck of s.s. *Solano* has been removed, but an examination of the site of the wreck shows that some portions remain, over which the depth is 27 feet.

Coal and supplies.—*Substitute*: "Coal can be supplied at the Port of Lavrion, in Ergasteria bay, and can be loaded at the rate of 100 tons an hour. There are also machinery workshops capable of undertaking repairs to ships."

Page 63.—Makronisi.—Light.—A light is exhibited, at an elevation of 115 feet, from a white tower on Point Angarlestro, the south extreme of the island.

Plan of Port St. Nikolo on 1526.

Page 65.—Port St. Nikolo.—Light.—A light, known as St. Savvas light, is exhibited from an iron column on the southern side of the entrance to the port; it is obscured by the land when bearing northward of S. 74° E.

Coal.—*Omit* paragraph.

Chart 1597, Petali gulf, &c.

Page 67.—Kárystos bay.—Harbour.—The breakwater, which is about 440 yards in length, leaves the shore just westward of the ancient castle. Small vessels loading or unloading lie with their sterns secured to the wharf on the northern side of the harbour, where there are also landing steps, at which there is a depth of 7 feet. The eastern part of the harbour is shallow, and dries in places. In the centre of the harbour there are depths of from 12 to 15 feet over a mud bottom, and of from 4 to 7 feet alongside the wharf mentioned above.

Landmarks.—A white chapel, which is conspicuous, stands on the islet situated on the western shore of the bay, and in the town is a white church which forms a good mark.

Page 68.—Light.—A light is exhibited from the northern side of the entrance to the harbour.

Supplies.—Provisions are plentiful, including potatoes and onions.

Plan 1788, Petali islands and anchorages.

Phundo islet.—Light.—A white iron tower stands on the south extreme of Phundo islet, from which a light is exhibited.

Chart 1597, Petali gulf, &c.

Page 70.—Dipsa rock.—Light.—From a white iron tower on the summit of Dipsa rock, a light is exhibited, at an elevation of 56 feet.

Caviliani island.—A conspicuous ruin stands on the summit of the hill at the southern end of the island.

Page 71.—Aliveri bay.—A light is shown from the end of the pier.

Oropos bay.—Light.—A light is exhibited from a white beacon tower standing on the eastern point of the bay.

Chart 1554, Talanta channel.

Landmarks.—The Venetian fortress and the two Venetian towers at Philla are conspicuous.

Plan 2802, Town and Strait of Euripo.

Page 72.—Margin: *For* "2602" *read* "2802."

Burj channel.—Light.—At Avlide, opposite Burj spit, a light is exhibited from a square tower above a dwelling.

Light-buoy.—A can-shaped light-buoy with superstructure, showing a *flashing white* light *every three seconds*, is moored in a depth of 3 fathoms off the end of Burj spit.

The bank off the mouth of the stream situated about 3 cables south-eastward from Burj point, is reported to have extended about 1½ cables to the south-westward.

Page 73.—Kolova rock.—Light.—A light is exhibited from a white tower, with outside stairway, erected on the rock.

Steno pass.—Lights.—On each side of the western end of the pass a light is shown from an iron latticework beacon.

Page 74.—Euripo (Khalkis).—The population in 1914 was estimated to be about 10,500. The walls of the town have almost disappeared. A ruined tower at the southern end of the wall is still conspicuous.

Bridge.—*Omit* from "The bridge is also opened, &c.," to end of paragraph, and *substitute*: "The Euripo-Athens railway section being now opened to traffic, it may happen that a ship must wait a long time for the opening of the bridge. As the current in the strait may attain a rate of 7, and, in stormy weather, of 8½ miles, it is advisable to anchor before entering the narrow channel, and not approach the passage till after the opening of the bridge."

Page 75.—Tekies point.—Buoys.—The extremes of the shoals on either side of the strait abreast of Tekies point are marked by light-buoys, that on the eastern side, painted red, showing a *flashing red* light *every three seconds*, and that on the western side, painted green, showing a *flashing green* light with a similar period.

CHAPTER IV.

Chart 1665, Mityleni island, &c.

Page 82.—Mityleni.—Population.—Trade.—In 1913, Mityleni was reported to have a population of 500,000. The trade products consisted of olive oil, soap, gums, sponges, oranges and lemons, cereals, hides, and skins.

Rainfall.—The rainfall during the year 1912 averaged 29·02 inches.

Page 96.—Kemer bay.—Rock.—A rock with a depth of 3 feet over it is situated about 6½ cables south-westward from the ancient mole on the northern point of the bay.

Plan 1661, Port Mudros.

Page 99.—Light.—Kombi island.—A light is shown from a white masonry tower on the summit of the island, at an elevation of 187 feet.

Light.—Sangrada point.—A light is shown from a white metal column on the extremity of Sangrada point.

Telegraph.—Port Mudros.—A telegraph station has been established, and is open to traffic.

Page 103.—Middle pass.—Leading mark should now read "the seventh from the left of twelve mills appears in line with the extremity of Kaloyeraki point, bearing N. 29° E.," &c.

Shoal.—A shoal, with a depth of 4¾ fathoms over it, lies about 2½ cables, eastward, from the north extreme of Alago island, and half a cable westward of the leading mark for Middle pass.

Plan of Kastro on 1891.

Page 104.—Light.—Kastro.—A light is shown from a white column on the western extremity of the outer wall of the castle, at an elevation of 243 feet.

Chart 1659, Lemnos.

Page 106.—Cape Plaka.—Lights.—From a white masonry tower, 74 feet in height, about 1½ cables within the north-east extremity of the cape, two lights are exhibited. The main light is elevated 164 feet above sea level. The auxiliary light is elevated 105 feet, and visible over Kharos bank.

Chart 1599, Cape Eski Stambul to Kum Kali.

Page 108.—Tenedos island.—Light.—The light is situated on the southern headland of Ponente point.

Margin: *For* "W." *read* "E."

Page 113.—Rabbit islands.—Rock.—A rock, with a depth of 4¼ fathoms over it, is situated in mid-channel southward of Mavro, midway between the north extreme of Drepano and the north-east extreme of Praso.

Page 113 continued. Chart 1599.

Drepano.—Line 5 of paragraph: *For* "Cape Yeni shehr mills" *read* "The northern edge of the ruined village of Yeni shehr."

Note.—This leading mark leads nearly over the 4¼-fathom rock, southward of Mavro, mentioned above.

Add after line 8 of paragraph "but there is a rock with 4¼ fathoms over it nearly in mid-channel."

Page 114.—Coast.—Line 8 of paragraph: *After* "village of that name" *add* "now in ruins."

Yeni shehr bank.—Buoys.—The two red and white buoys have been withdrawn.

Page 115.—Margin: *For* "Long.29°12′E." *read* "Long.26°12′E."

Chart 2429, Dardanelles.

Dardanelles.—Regulations for navigation.—The following regulations have been issued for the guidance of masters of vessels passing through the Dardanelles, and conducted by a pilot vessel:—

1. The firman launch is situated between Nagara and Bokali Kalessi lighthouses: the firman will be issued there.

2. Vessels which are not provided with a firman must not cross the line between the above-mentioned lighthouses.

3. All vessels must hug the European shore and keep clear of the Asiatic shore of the strait.

4. All vessels, whether inward or outward bound, must pass as close as possible to a buoy marking a shoal near Kilid Bahr lighthouse.

5. Any vessel which sees that the vessel next ahead of her is deviated from her course by the current must avoid following her, and keep a proper course.

6. All vessels outward bound, wishing to call at Chanak (Dardanelles), must, when leaving, proceed to Maitos to meet the pilot vessel. Vessels inward bound, wishing to call at Chanak (Dardanelles), must first proceed to Maitos, maintaining their position in the line, and will proceed from thence to Chanak.

7. Vessels bound for Constantinople are absolutely prohibited from stopping near the buoys; they must wait off Khelia liman to obtain pratique.

Chart 1608, Entrance of the Dardanelles.

Directions.—Line 22 of paragraph: *For* "the nine mills on Cape Yeni shehr" *read* "the northern edge of the ruined village of Yeni shehr."

Page 116.—Lines 19 and 20: *Omit* reference to buoys on Yeni shehr bank.

Lines 23-27: *Erase*, and *substitute*: "When the large village of Aren Kioi or Ghelmez, on the side of a hill, comes open of Kum Kale, N. 88° E., course may be altered to the north-eastward."

Chart 1608, Entrance of the Dardanelles.

Page 117.—Lines 1 and 2: *Erase* "and also the remarkable row of nine windmills."

Plan of Kephalo bay on 1880.

Page 120.—Imbros island.—Kephalo bay.—This bay, situated westward of Cape Kephalo, affords temporary anchorage in from 5 to 10 fathoms, sand and rock bottom.

Light.—*See* view of lighthouse on plan 1880.

Chart 1087, Thaso island to Dardanelles.

South coast.—*Add* to paragraph: "H.M. Ships have also anchored in 10 fathoms of water, with Cape Aliki bearing N. 35° E., distant about 8 cables, and the salient point eastward of it in line with Coja chemen dagh (Gallipoli) N. 65° E. From this position the house with red roof was shut out by the higher land near Cape Aliki."

Plan 2429, Dardanelles.

Page 122.—Current.—On the western coast of the Gallipoli peninsula the usual set of the current is to the north-north-westward, at about $1\frac{1}{2}$ miles per hour. It is, however, much influenced by the prevailing wind.

Plan of Dédé Agatch on chart 2836b.

Page 125.—Dédé Agatch.—Eastward of the small harbour is a sloping sea wall, from which some iron framework piers extend; lighters drawing about 6 feet can load alongside them. Half a mile westward of the town is a good pier, 150 feet in length, with a railway line connected with the Saloniki railway.

There is a depth of about 6 feet in the entrance to the harbour, and of 5 feet at the Custom house landing stage.

Cancel lines 4 and 5 from bottom of page.

Plan of Kara Agatch bay on sheet 1892.

Page 127.—Kara Agatch bay.—Obstruction.—A sunken obstruction, on which a vessel touched when drawing 15 feet of water, exists at a distance of $2\frac{8}{10}$ miles, S. 43° E., from Fenar point light-house.

Page 129.—Light-buoy.—The buoy exhibiting an occasional light is now situated $2\frac{2}{10}$ miles, N. 20° W., from Fenar point light.

Caution.—Vessels navigating in the vicinity of Kara Agatch bay should take every precaution, as the chart is compiled from a very old survey.

The point 3 miles eastward of Fenar point is reported to lie one mile further south than is now shown on the charts, and the 3-fathom bank northward of Cape Balustra is said to have extended further to the eastward.

CHAPTER V.

Plan 2802, Euripo strait.

Page 130.—Tekies point.—Buoys.—The extremes of the shoals on either side of the strait, abreast of Tekies point, are marked by light-buoys; that on the eastern side, painted red, exhibiting a *flashing red* light, and that on the western side, painted green, a *flashing green* light, each with a period of *three seconds*.

Chart 1556, Gulf of Volo.

Page 132.—Atalánti island.—*Erase* lines 6 and 7 of paragraph, and *substitute*: "The best berth is about one-third of a mile westward of the small islet situated close to the centre of the western coast of Atalánti island, taking care."

Light.—The light is situated on St. Nicholas islet, which lies about 2 cables westward from the north extreme of Atalánti island.

Vromo Limni point.—Light.—A light is exhibited from a white iron beacon tower, with red band, situated on Vromo Limni point.

Chart 1554, Talanta channel.

Page 133.—*Insert* at top of page:—

Cape Mnima.—Light.—A light is exhibited from a white iron beacon tower on the extremity of Cape Mnima, situated on the north-eastern shore of Talanta channel.

Chart 1556, Gulf of Volo.

Limni bay.—Buoy.—A red mooring buoy is established, in a depth of 43 fathoms, $1\frac{1}{4}$ cables from the landing place.

Page 134.—Margin: *For* "chart 1536" *read* "chart 1556."

Gulf of Zeitun.—The low south shore is said to be extending to the northward.

Buoys and beacons.—*Erase* paragraph, and *substitute*: The entrance to the channel is marked by two light-buoys, showing a *green fixed* light on the starboard side and a *red fixed* light on the port side. Inside the port are four beacons, on stakes, marking the edge of the shallow water. On the quay at the head of the port there is a light. Ships entering the channel should be in the *white* sector of this light to pass between the two light-buoys at the entrance.

Page 137.—Oreos shoal.—Latitude in margin should read "38° 57′ N."

Beacon.—*Erase* paragraph.

Light.—On the centre of Oreos shoal a light is exhibited from a white iron column with a red band.

Chart 2048, Skyros island.

Page 140.—Light.—*Omit* "on account of damage by earthquake, &c.," to end of paragraph. The light is again working regularly.

Page 140 continued. Chart 2048, Skyros island.

Valáxa island.—Light.—On Latomeio point a light is exhibited from a white iron tower, with a red band, at an elevation of 59 feet.

Page 141.—Linaria.—Light.—On the eastern shore of Linaria cove, at a distance of $3\frac{1}{2}$ cables, N. 37° W., from the south extreme of Psarina point, a light is exhibited, at an elevation of 75 feet. A sector of *green* light shows over Linaria anchorage. The light is obscured over the land towards the north-east.

Plan of Port of Volo on 1196.

Page 147.—Port of Volo.—Bank.—The least depth on the bank south-eastward of Cape Sesklo is $5\frac{3}{4}$ fathoms.

Landmark.—The new hospital, a two-storied building with red roof, situated on the shore 6 cables north-westward from Goritza point, is conspicuous.

Breakwater.—The breakwater has been completed, and is 860 yards in length. The buoys formerly marking its position have been withdrawn.

There is an opening at the shore end of the breakwater for the use of boats landing at the steps.

Light.—The light-boat has been withdrawn, and the outer end of the breakwater is now marked by two vertical lights shown from an iron column.

Plan of Skiathos harbour on 1196.

Page 149.—Skiathos harbour.—Lights.—A light is exhibited from a white iron tower on Praso nisi, situated on the western side of the western approach to the harbour.

A light is exhibited on the summit of Repi island from a circular masonry tower, at an elevation of 138 feet.

A light is exhibited, from a white columnar structure, surrounded by a red brick wall, on the centre of the 15-foot islet off Skiathos.

Obstruction.—A sunken obstruction, with less than 16 feet of water over it, is reported to lie $2\frac{4}{10}$ cables, N. 75° E., from the rock 6 feet high situated northward of Arkakion island.

Chart 1085, Negropont to Gulf of Kassandra.

Page 157.—Tsaghesi (Tzai Agzi).—**Light.**—A light is exhibited from a red iron hut at Tzai Agzi.

Page 159.—Boundary.—*Erase* paragraph.

Plan 2070, Saloniki bay.

Page 162.—Saloniki bay.—Vardar bank light-vessel has been withdrawn.

Light-buoy.—A light-buoy, painted in black and white bands, exhibiting a *flashing white* light, is moored about half a mile off Vardar point.

Plan 2070, Saloniki bay.

Page 163.—Caution.—In order to avoid the shoal water extending from the north-western shore of the bay, vessels of deep draught should keep eastward of a line joining Cape Kara and the South bastion, Saloniki, until abreast of Mikra point.

Saloniki harbour.—The south-eastern entrance has a depth of not less than 35 feet.

Entrance to the harbour is prohibited at night.

Quays.—The length of the main quay is 435 yards, with a depth alongside of 16 to 19 feet. The arms are each 220 yards in length, with a depth of 25 feet alongside the eastern one and at its outer end, and of 13 to 19 feet alongside the western one. At a distance of 20 feet out from the quays the depths are about 5 feet greater than those alongside.

There is accommodation for mooring alongside the quays, and vessels of not more than 18 feet draught can lie alongside the breakwater except at its eastern end. There are mooring rings on the breakwater, so that vessels can anchor off and secure their sterns to these rings. There are four travelling steam cranes, one of 15 tons capacity, one of 5 tons, and two of 2 tons.

At the quay fronting the town the depths are from 9 to 15 feet.

Piers.—The only loading piers in repair are the Railway pier northward of the harbour, and the Brickworks pier, nearly a mile southward of the town.

Water.—The water in Saloniki bay is not good for distilling, as it causes the evaporators constantly to prime.

Chart 1085, Negropont to Gulf of Kassandra.

Page 165.—Gulf of Kassandra.—Rock.—A rock, with a depth of less than 6 feet over it, situated on a shoal about one cable in extent, lies about 2 miles south-westward from Cape Kastro.

Plan of Port Dimitri on 1679.

Page 166.—Port Dimitri.—Rock.—A rock, with a depth of $2\frac{1}{4}$ fathoms over it, lies in the southern entrance to the port, at a distance of about 35 yards south-eastward from the rock above water situated on the outer end of the reef extending from the south-east point of Dimitri island.

Chart 1086, Gulf of Kassandra to Thaso island.

Page 169.—Russiko.—Mooring buoys.—The two mooring buoys off the monastery are painted white. The outer one is suitable for vessels up to 4,000 tons.

Daphni bay.—Light.—A light is exhibited from an iron hut, at an elevation of 52 feet, erected on the coast about one mile northward from Kastana point.

Mooring buoys.—There are three white mooring buoys in the bay. The outer one is suitable for vessels up to 4,000 tons.

Plan of Erissos bay on 1647.

Page 170.—Stratoni bay.—A light railway connects Stratoni with the mines situated on the southern slopes of the mountain about 5 miles inland. The pier has a depth of about 16 feet at its outer end.

Chart 1086, Gulf of Kassandra to Thaso island.

Page 172.—Libiadha bay.—The islet between Cape Eleuthera and Kaphkana islet is only 3 feet high, and is not easily seen from seaward.

Plan of Mouth of Kara su or Strymon.

Struma river.—The best channel over the bar has a depth of about 4½ feet.

Plan of Deuthero cove on 1679.

Deuthero cove.—There is a small pier, about 100 yards in length, in the N.E. corner of the cove, off which are two white mooring buoys.

Light.—A light is shown from a white iron column on the southern extreme of the northern entrance point of the cove.

Chart 1086, Gulf of Kassandra to Thaso island.

Page 176.—Thaso.—Hamidieh bay.—Hamidieh, formerly called Kastro, lies on the S.W. coast of Thaso island. It is a chief shipping place for ore, which is obtained to the north-east of the village from mines lying close to the coast. The whole mining establishment is in German hands.

The village of Hamidieh lies in the low land immediately on the shore, whence also the hinterland gradually ascends. Eastward of this flat shore is a steep wall of rock, projecting southward, upon which a house stands, which forms a good landmark. Further eastward this high point recedes and forms a small bay, where the mining establishments are situated. To the east of the mining establishment on the highest hill stands a conspicuous powder-house.

Anchorage.—The roadstead is open, and lies entirely unprotected from south to west-south-west winds, and with strong winds from these directions it is advisable to leave. Northerly winds, however, prevail, and ships lie well in the roadstead. The coast is steep-to.

The best anchorage is in the vicinity of the pier, in about 6 to 9 fathoms.

Pier.—An iron pier is built into the sea near where the mining establishments are situated. It serves for shipping ore into lighters. The pier is connected with the sheds for the storage of ore by a railway line. The lighters are from 12 to 10 tons capacity.

Tugs.—Two tugs exist, a steamer and a motor-boat. They are used for towing lighters, but the steamer goes twice weekly to Kavala for mails.

Page 176 continued. Chart 1086, Gulf of Kassandra to Thaso island.

Quarantine and Customs.—A ship is boarded on arrival; a certificate of health is demanded, but otherwise formalities are fairly simple.

Supplies.—Fresh provisions can be obtained as a rule, but no other ships' requirements. Water can be obtained from the Mining Company in small quantities, but this must be brought off in the the ship's boats. Coal cannot be obtained.

Small works of repair can be carried out in case of necessity by the Mining Company.

Sotiros.—A loading place is situated on the north-west coast of Thaso island, and connected by a railway with the village of Sotiros or Cavamith. A pier is situated here, for loading ore from sheds, off which vessels can anchor within 2 cables.

For ships coming from the south-west, the mines and the railway lines are easily recognised.

The shoals on the coast between Cape Kephalo and Sotiros are easily recognisable by the light green colouring of the water. The roadstead is protected against south and east winds.

Drinking water can be obtained in very small quantities, otherwise nothing is to be obtained.

Botos bay, which bounds Hamidieh bay to the south-east, finds some protection from southerly winds. Anchorage in 7 fathoms.

Panagia island lies off the south point of Thaso island. It rises steeply, and is with difficulty accessible, the only landing place being in a small bay on the south side of the island. An isolated rock, 82 feet high, is situated off the S.E. point. The island is now uninhabited, except for birds and rabbits; the little bay abounds with fish, crabs, cuttle-fish, and, in certain months, with oysters.

CHAPTER VI.

Plan of Psara island on 1891.

Page 178.—Psara island.—Light.—On Kokino pulo, about 220 yards from the extremity of the point, a light is shown from a white circular tower, at an elevation of 246 feet.

Plan 1617, Vourlah road.

Page 193.—Clazomenæ islet.—Buoy.—A red buoy is situated at the entrance to the Quarantine port, on the western side of the islet.

Plan 1522, Smyrna harbour.

Page 197.—Smyrna harbour.—Light-vessel.—*Erase* paragraph, and *substitute*:—

Page 197 continued. Plan 1522, Smyrna harbour.

Light-buoy.—A light-buoy, cylindrical in shape, with framework superstructure, painted in black and white horizontal bands, exhibiting a *flashing white* light *every five seconds*, is moored off Pelican spit. Ships should pass south of this buoy.

Page 198.—Sanjak spit.—Light-vessel.—*Erase* paragraph, and *substitute*:—

Light-buoy.—A light-buoy, cylindrical in shape, with framework superstructure, painted in black and white horizontal bands, exhibiting a *flashing white* light *every five seconds*, is moored off Sanjak spit.

Light-buoys.—The channel northward of Yeni Kale is now marked by two light-buoys, painted white, each showing a *red flashing* light *every three seconds*.

Vessels must pass between the light-buoys.

Page 199.—Beacons.—On the northern side of the harbour, in a depth of 3 fathoms, at a mile north-eastward of Sanjak spit, a black beacon, with conical topmark, and 14 feet high, has been erected. On the southern side of the harbour, in 3 fathoms, at a distance of 2 cables northward of Jackal point, is a red beacon with spherical topmark.

Page 200.—Directions.—Lines 29 and 33 of page: *For* "light-vessel" *read* "light-buoy."

Lines 34-39: *Erase* from "and bring" on line 34 to end of line 39, and *substitute* "and steer to pass between the white painted light-buoys off Sanjak Kalessi."

Bottom line: *For* "lights" *read* "light-buoy."

Page 201.—Line 4: *For* "light-vessel" *read* "light-buoy."

Lines 7-10: *Erase* from "Sanjak Kalessi" on line 7 to "convenient" on line 10, inclusive, and *substitute* "the white painted light-buoys off Sanjak Kalessi, when, after passing the spit off Jackal point, course may be shaped for the anchorage."

Plan of Smyrna on 1521.

Smyrna.—Population.—The vilayet of Smyrna was reported to be about 2,500,000 in 1913; the chief town, Smyrna, about 350,000.

Coal.—*Add* to paragraph: "In recent years considerable preference has been shown for Turkish coal, *i.e.*, coal from the mines of Heraclea and district, of which 77,440 tons were imported in 1908, as compared with 45,805 in 1906. Cheapness principally accounts for the preference shown to the native fuel, but the quality of the coal has steadily and greatly improved of late years."

Chart 2836a, Grecian archipelago, southern sheet.

Page 210.—Samos.—Communication.—There is frequent communication by various lines of steamers, and a post-office is established.

Plan of Port Tigani on 1878.

Page 211.—Port Tigani.—Lights.—A light is shown from the extreme of the breakwater.

A light is shown from the southern extreme of the mole, on the eastern side of the inner harbour.

Lights.—The light on Glykora point has been expunged from above plan, as its correct position falls outside. Chart 1530 should be noted in the margin against this light, with the position of lat.37°41′N., long. 26° 59′ E.

Chart 1530, Strait of Samos.

Page 213.—Port Vathi.—Breakwater.—*Erase* "295 feet" and *substitute* "370 feet."

Erase "and a mole on Malagari point," and *substitute*: "There are three wooden piers for discharging cargo on the south side of Malagari point. Sand can be obtained on the south side of the point."

Water is supplied by hose over the quay into lighters or ship's boats.

Chart 1867, Nikaria island.

Page 214.—Nikaria.—Temporary anchorages.—In 1909 H.M.S. *Bacchante* anchored in Armenisti bay, 5½ cables, N. 18° W., from Yediskari island (6 feet high), in 17 fathoms. From this position the water shoaled very gradually towards the shore, the 10-fathom line being 3½ cables from the ship.

CHAPTER VII.

Plan 3691, Suda bay anchorage.

Page 224.—Anchorage.—*Erase* "red tower," and *substitute* "red mound." This still remains a good distinctive mark.

The minaret of the mosque at Azizieh village, at the head of the bay, has fallen down.

Chart 1658, Suda bay and Khania.

Page 225.—Margin: *For* "165" *read* "1,658."

Coal.—*Add* to paragraph "and one 50-ton lighter."

Plan of Sitia bay on 2724.

Page 235.—Sitia bay.—Light.—A light is exhibited from an iron hut situated on the point immediately northward of the anchorage off Sitia.

CHAPTER VIII.

Chart 2051, Islands of Milo, Anti Milo, &c.

Page 250.—Skala.—There is a good landing pier at Skala, and the church is very conspicuous.

Page 251.—Paximadion islet.—Light.—A light is exhibited from a white iron tower on the summit of the islet, at an elevation of 85 feet.

Plan of Serpho on 1817.

Page 254.—Serpho.—A large modern village is situated at the head of the inlet 1½ miles north-eastward from Cyclops head. The hills above this village are covered with mining works. A cantilever loading jetty is situated in this inlet, and another in the small cove close northward of it. A conspicuous white church stands on a hill above the village.

In the north-west corner of Kutala bay there is a large village, near which is a loading pier with two mooring buoys off it.

Port Livadhi.—Light.—A light is exhibited from an iron hut with iron column, and situated on the point south-eastward of Livadhi village.

Plan of Thermia on 1817.

Page 256.—Port Merika.—*After* line 3 *insert*:—

Light.—On the western extremity of the northern entrance point of Port Merika, a light is exhibited, at an elevation of 75 feet, from a rectangular masonry tower above a dwelling.

Chart 1542, Syra island.

Page 257.—Aspro islet.—Buoy.—Aspro whistle-buoy is painted red and white.

Plan of Syra harbour on 1542.

Page 259.—Syra harbour.—Lines 4-6: *Erase* "the mole is being extended, &c.," and *substitute*: "The mole has been extended to 430 yards, and provides excellent shelter in bad weather."

Line 24: *Erase* "20 feet," *substituting* "20 yards." There are no bollards on the extension of the mole.

Lights.—The old light-structure is abandoned, and the two vertical lights are shown from an iron post 56 feet within the outer end of the breakwater.

Page 260.—Patent slip.—*Erase* "This slip has taken up, &c." and *substitute* "This slip is capable of taking all classes of vessels up to 2,500 tons. *See* Appendix I."

Chart 1815, Islands of Tinos, Mykoni, &c.

Nata.—Light.—A light is exhibited from a white iron tower on the western summit of the islet.

Chart 1820, Andros island, &c.

Page 262.—Cape Gerias.—Light.—A light is exhibited from a masonry tower, at an elevation of 240 feet.

Chart 1815, Islands of Tinos, Mykoni, &c.

Page 263.—Livada point.—Light.—On the extremity of Livada point, from a rectangular masonry tower above the light-keeper's dwelling, a light is exhibited, at an elevation of 135 feet.

Page 264.—Port Panormos.—Beacon.—A stone-built column in the form of a truncated cone on a circular base, marks a bank near the north-western shore of the port.

This port must not be mistaken for that of the same name on the adjacent island of Mykoni.

Page 266.—Dili strait.—*Erase* from "The passage" to "10 feet draught," and *substitute*: "Owing to the deposit of material from excavations being carried on in the vicinity, a barrier is gradually being formed across the passage between Delos island and Rematia islet. This channel is therefore no longer available for navigation."

Plan of Port Naussa on 1832.

Page 270.—Port Naussa.—Shoal.—Foul ground extends for a distance of about half a cable from the north-east extreme of Hebreo island, situated in the approach to the port.

Plan 1732, Naxia bay.

Page 273.—Naxia bay.—Harbour works.—Important harbour works have been commenced in the port of Naxia. A mole, to be 460 yards in length, will run from Bacchus island to the south-west, and another jetty, to be 132 yards long, will extend towards the north-west from the point to the west of S. Georgio's church. Bacchus island is now joined to the coast by a jetty on which railway lines are placed.

These works are for the present suspended, and the ends of moles are unmarked by lights. The construction of the southern mole has made hardly any progress.

The quay of the port has undergone important modifications, and others are projected. The depths in the port have been increased.

Chart 2753, Islands of Polykandro, Skios, and Nio.

Page 280.—Nio island.—Light.—*Add* to paragraph "and is situated about 130 feet within the extremity of Cape Phanari, in a turret over a white hut."

CHAPTER IX.

Plan of Town and Ports of Rhodes on 1667.

Page 288.—Port of Rhodes.—A red barrel-shaped mooring buoy has been established in the southern harbour, at a distance of 215 yards, S. 56° W., from St. Angelo tower.

Khatar rocks.—Last 2 lines of paragraph: *Erase* "or the fourth windmill open of Lazaretto point, N. 64° W."

Chart 1888, Stampalia island.

Page 297.—Stampalia.—Communication.—Landing is prohibited by night from any vessel.

Plan 387, Port Maltezana.

Page 298.—Port Maltezana approach.—Shoal.—A 4-fathom shoal is situated on the northern part of the bank next southward from Oxo Xera. The depths over this bank are very uneven, and it is unadvisable to anchor upon it even temporarily.

Plan of Kandeliusa on 2836a.

Page 300.—Kandeliusa.—Shoal.—A shoal, with a depth of less than 6 feet over it, lies $2\frac{3}{4}$ cables, S. 56° W., from the lighthouse.

Chart 1898, Islands of Kos, Niseros, &c.

Page 301.—Niseros.—There are two large thermal bathing establishments on the north coast of the island, one at the eastern end of Mandraki, and the other near Skala.

Anchorage can be obtained in a depth of 16 fathoms at about a quarter of a mile eastward of Mandraki, and $1\frac{1}{2}$ cables from a small pier in this locality.

Chart 1899, Kalimno, Kappari, and Kos channels.

Page 310.—Town of Kos.—Light.—A light is shown from the head of the pier.

Margin: *Cancel* "Plan on 1889." This chart has been withdrawn from publication.

Page 322.—Kato islet.—A circular tower stands on the north-east extreme of the islet.

Chart 1666, Lero and Kalimno.

Page 324.—Port Kalimno.—Light.—A light is shown from the head of the mole on the south side of the entrance to the port.

Chart 1537, Furni islands.

Page 339.—*After* line 36 *insert*:—

Alazo nisi.—Rock.—A rock, with a depth of $2\frac{1}{2}$ fathoms over it, lies on the eastern edge of the 13-fathom bank situated 4 cables westward from Alazo nisi.

APPENDIX I.

Particulars of Dry Docks, Patent Slips, &c.

Port.	Name of Dock	Length.		Breadth of Entrance.	Depth at M.H.W.S.		Springs rise.	Lifting Power.	Date Built.	Remarks
		On Blocks.	Over all		On Sill	On Blocks.				
		Feet	Feet	Feet	Feet	Feet	Feet	Tons		
Peiræus	No. 1 Dock	474	494	79⅓	29⅓	28 1/12	—	—	—	
		492	512	Caisson	in Outer	stop.				
	No. 2 Dock	331	351	46 1/12	25 1/12	25 7/12	—	—	—	
		349	369	Caisson	in Outer	stop.				
	Patent Slip ..... (Bassiliade's).	336 (cradle)	—	—	Forward	16	—	3,500	1907	
					Aft	21				
Salamis	Government Floating	—	308¼	61	—	21	—	3,000	1885	
Syra	Patent Slip	314 (cradle)	—	—	Forward	12	—	2,500	—	
					Aft	16				
	Ditto	180 (cradle)	—	—	Forward	10	—	600	—	
					Aft	14				

APPENDIX II.

List of Principal Ports, showing particulars of depths, &c.

Port.	Depth at M.L.W.S. in channel of approach.	Depth at M.L.W.S. in anchorage.	Rise of Tide.	Remarks.
Nauplia	Deep	7 to 9 fms.	—	
Peiræus	15 fms.	4½ fms.	—	
Port Mudros	E. Pass 12 fms Mid. ,, 6 fms. W. ,, 4 fms.	4 to 10 fms. ..	—	
Port Sigri	11 to 20 fms. ..	7 to 14 fms. ..	—	
Rhodes, Tershaneh..	8 feet	18 feet	—	
,, Southern harbour ..	22 feet	10 fms.	—	
,, Summer anchorage	—	12 to 10 fms. ..	—	
Saloniki	26 feet	16 to 25 feet ..	—	
Smyrna	7 to 10 fms. ..	5 fms.	—	
Suda bay	12 to 20 fms. ..	13 to 16 fms. ..	—	
Syra	17 to 21 fms. ..	6 to 10 fms. ..	—	

APPENDIX III.

List of spots suitable for magnetic observations.

Mityleni.—Sigri island.—On the S.E. corner of Sigri island, 20 yards west of a small cove, and about 80 yards north of the southern point. The position is marked by a small stone cairn, and is situated in lat. 39° 11′ 53″ N., long. 25° 50′ 23″ E. Minaret in town to eastward of fort N. 59° 54′ E. (true), lighthouse vane N. 25° 45′ W. (true).

Lemnos.—Port Mudros.—The situation is S. 34° E. (true), $3\frac{1}{2}$ cables, from the end of the pier, and N. 35° E. (true), 12 yards, from the N.W. corner of a clump of bushes near a small stone hut. The hut is in line with another hut on the hill. The nearest windmill above the town is in transit the right extreme of a large yellow house and also a small white house with a red roof. The tall pier flagstaff bears N. 21° 53′ 45″ W. (true). Position, lat. 39° 51′ 30″ N., long. 25° 16′ 12″ E.

Tenedos.—On ridge southward of Tenedos town, and 300 yards westward of north-western of eight windmills. Hut on summit southward of Mount Sana bears S. 82° 15′ W. (true), cupola near Ku castle N. 3° 29′ E. (true), left tangent Tenedos rock S. 54° 50′ E. (true). Position lat. 39° 49′ 54″ N., long. 26° 04′ 52″ E.

Volo.—This situation is on the pier, N. 17° W., $1\frac{7}{10}$ cables from Sesklo point. The house on the cape bears N. 63° 47′ E. (true), and the minaret N. 18° 51′ E. (true). Position, lat. 39° 20′ 43″ N., long. 22° 57′ 51″ E.

Thaso.—Panagia.—The observation spot is situated 6 feet from a small white marble pillar, 2 feet high, S.S.W. (true), 250 yards from the ruined tower at the east end of the bay. The wooden beacon on Mount Elias bears S. 11° 38′ 6″ W. (true). Position, lat. 40° 46′ 24″ N., long. 24° 44′ 00″ E.

Smyrna.—The suitable spot for magnetic observations is situated on the breakwater, 130 yards from the *red* light on the north end. The minaret at the upper end of the Turkish cemetery bears S. 6° 35′ W. (true). Position, lat. 38° 25′ 42″ N., long. 27° 8′ 55″ E.

Samos.—Port Tigani.—The most suitable spot for magnetic observations is situated on the breakwater, at an angle about 20 yards, from the outer end, at the shoulder. Castle point, N. 70° 52′ 15″ W. (true), breakwater staff S. 81° 26′ 11″ E. (true), left tangent Apros Kavos S. 48° 5′ 49″ W. (true). Position, lat. 37° 41′ 38″ N., long. 26° 58′ 10″ E.

Appendix III. continued.

Suda bay.—The suitable spot for magnetic observations is situated N. 56° 30′ W., 17 cables, from the Naval cemetery. Suda fort lighthouse bears S. 83° 39′ E. (true). Position, lat. 35° 29′ 33″ N., long. 24° 3′ 50″ E.

Kos.—The suitable spot for magnetic observations is situated on a sand-spit E.N.E., 150 yards, from Kum lighthouse. Position, lat. 36° 55′ N., long. 27° 18½′ E.

Abnormal variation of the compass has been experienced off Cape Akrotiri, Crete.

INDEX TO NEW NAMES.

The number of the page refers to Mediterranean Pilot, Vol. IV., 4th edition, 1908.

SUPPLEMENT,

1916,

RELATING TO THE

MEDITERRANEAN PILOT, VOL. V.

FIRST EDITION,

1915.

(CORRECTED TO 6TH NOVEMBER, 1916.)

PUBLISHED BY ORDER OF THE LORDS COMMISSIONERS OF THE ADMIRALTY

LONDON:
PRINTED FOR THE HYDROGRAPHIC DEPARTMENT, ADMIRALTY,
UNDER THE AUTHORITY OF HIS MAJESTY'S STATIONERY OFFICE,
BY TAYLOR, GARNETT, EVANS, & CO., LTD.,
ALSO AT MANCHESTER AND REDDISH;
AND TO BE OBTAINED FROM
J. D POTTER, AGENT FOR THE SALE OF ADMIRALTY CHARTS,
145, MINORIES, E.C.

1916.

Gratis to purchasers of the Mediterranean Pilot, Vol. V.

CAUTION WHEN APPROACHING BRITISH PORTS.

(To be inserted inside cover of all Sailing Directions.)

PART I.—CLOSING OF PORTS.

(1) My Lords Commissioners of the Admiralty having taken into consideration the fact that it may be necessary to forbid all entrance to certain ports of the Empire, this is to give Notice that on approaching the shores of the United Kingdom, or any port of the British Empire, a sharp lookout should be kept for the signals described in the following paragraph, and for the vessels mentioned in paragraph (4), Part II., of this Notice, and the distinguishing and other signals made by them. In the event of such signals being displayed, the port should be approached with great caution, as it may be apprehended that obstructions may exist.

(2) If entrance to a port is prohibited, three *red* vertical lights by night, or three *red* vertical balls by day, will be exhibited in some conspicuous position in or near to its approach, which signals will also be shown by the vessels indicated in paragraph (4), Part II., of this Notice.

If these signals are displayed, vessels must approach the port with the greatest caution, and implicitly obey all orders or signals given them by the Examination vessel or Signal station.

PART II.—EXAMINATION SERVICE.

(3) Under certain circumstances, it may become necessary to take special measures to examine vessels desiring to enter the ports or localities at home or abroad, referred to in Notices to Mariners No. 1 of 1917 and subsequent years.

(4) In such case, vessels carrying the distinguishing flags or lights mentioned in paragraph (6) will be charged with the duty of examining ships which desire to enter the ports and of allotting positions in which they shall anchor. If Government vessels, or vessels belonging to the local port authority, are found patrolling in the offing, merchant vessels are advised to communicate with such vessels with a view to obtaining information as to the course on which they should approach the port. Such communication will not be necessary in cases where the pilot on board has already received this information from the local authorities.

(5) As the institution of the Examination Service at any port will never be publicly advertised, especial care should be taken in approaching the ports, by day or night, to keep a sharp lookout for any vessel carrying the flags or lights mentioned in paragraph (6), and to be ready to "bring to" at once when hailed by her or warned by the firing of a gun or sound rocket.

In entering by night serious delay and risk will be avoided if four efficient all round lamps, two *red* and two *white*, are kept available for use.

(6) By day the distinguishing flags of the Examination Steamer will be a special flag (white and red horizontal surrounded by a blue border) and a blue ensign.

Also, three *red* vertical balls if the port is closed.

By night the steamer will carry: (*a*) Three *red* vertical lights if the port is closed: (*b*) three *white* vertical lights if the port is open.

The above lights will be carried in addition to the ordinary navigation lights, and will show an unbroken light around the horizon.

(7) Masters are warned that, when approaching a British port where the Examination Service is in force, they must have the distinguishing signal of their vessel ready to hoist immediately the Examination Steamer makes the signal.

(8) Masters are warned that, before attempting to enter any of these ports when the Examination Service is in force, they must in their own interests strictly obey all instructions as to entry given to them by the Examination Steamer.

Whilst at anchor in the Examination Anchorage, Masters are warned that they must not lower any boats (except to avoid accident), communicate with the shore, work cables, move the ship, or permit anyone to leave the ship, without permission from the Examination Steamer.

(9) In case of fog, Masters of vessels are enjoined to use the utmost care, and the port itself should be approached with caution.

(10) Merchant vessels when approaching British ports are specially cautioned against making use of private signals of any description, either by day or night, the use of them will render a vessel liable to be fired on.

(11) The pilots attached to the ports will be acquainted with the regulations to be followed.

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Gratis to purchasers of the Mediterranean Pilot, Vol. V.

ADVERTISEMENT TO THE SUPPLEMENT.

This Supplement, compiled by Commander E. V. Brooke-Webb, R.N., contains all the information received in the Hydrographic Department of the Admiralty relating to the Mediterranean Pilot, Vol. V., First Edition, since its publication in 1915.

All details regarding lights and fog signals have been omitted; for these the Admiralty List of Lights should be consulted.

A list of charts published and withdrawn since the issue of the Pilot, in 1915, and which affect this work, has been added as an appendix.

It must be remembered that during the present state of hostilities many of the aids to navigation referred to in Mediterranean Pilot, Vol. V., and this Supplement, have been modified or withdrawn without notice.

All Notices to Mariners relating to the above work, up to and including No. 988, of 1916, are hereby cancelled.

J. F. PARRY,
Rear Admiral,
and Hydrographer.

Hydrographic Department,
Admiralty, London,
16th November, 1916.

(6092) Wt. 2010/820 (77). 1,000.—5/17. T.G.E.

For all details of the Lights and Fog Signals which are included in this work, seamen should consult the Admiralty List of Lights, Part V. This List is published early in every year, corrected to the preceding 31st December.

The existence of this Supplement is to be entered on the opening pages of the Mediterranean Pilot, Vol. V. The information in it is to be carefully considered.

One copy is to be retained intact for reference, notations referring to it being made in the pages of Mediterranean Pilot, Vol. V.; the other copy may be cut up, if considered desirable, the slips being pasted in the volume at the appropriate place.

SUPPLEMENT,

1916,

RELATING TO THE

MEDITERRANEAN PILOT, VOL. V.

FIRST EDITION,

1915.

(CORRECTED TO 6TH NOVEMBER, 1916.)

The several paragraphs follow the order of the paging of the Mediterranean Pilot, Vol. V., the pages referred to being given in the text.

(*All bearings are True.*)

CHAPTER I.

Page 1.—Heading: *For* "Tripoli" *read* "Libia."

Line 1: *For* "**TRIPOLI (Libia)**" *read* "**LIBIA (Tripoli).**"

Page 2.—*Before* "confined" *insert* "chiefly."

Page 3.—Egypt.—Communications.—A railway extends westward from Alexandria as far as Marsa Matruh.

Canals.—There are some 700 miles of navigable canals in the Nile delta. The principal of these canals being the Mamudiyeh, 48 miles in length, from Alexandria to the Rosetta branch of the

Page 3 continued.

Nile; the Rayah Menufia and the Baguria canal, 70 miles in length, from the Delta barrage to Qoddaba on the Rosetta branch of the Nile; Bahr Shibbin, branching off from the Rayah Menufia, with the Rayah Abbas, 140 miles in length, from the Delta barrage to the sea; the Rayah Tewfiki and the Mansura canal, 63 miles in length, from the Delta barrage to Mansura on the Damietta branch of the Nile; and the Ismailia canal, 80 miles in length, from Cairo to Ismailia.

The Rayah Behera, which leads from the Delta barrage along the left bank of the Rosetta branch of the Nile, a distance of 50 miles, has a better depth of water than the other navigable canals, but does not as yet open at its lower end into the Nile by a navigable passage.

The vessels using the above canals, with the exception of the Ismailia canal, have the following maximum dimensions:—

	Length feet	Breadth feet	Depth feet
Steam or motor barges	130	23	$6\frac{1}{2}$
Cargo barges	98	20	$6\frac{1}{2}$
Tugs	72	15	$5\frac{1}{2}$
Country boats	72	20	$6\frac{1}{2}$

The Rayah Behera does not admit vessels exceeding 115 feet in length.

Navigation ceases on the Rosetta and Damietta branches of the Nile when the river falls below a certain level (13·30 and 30·60 metres, respectively, as indicated by the gauge readings at the Delta barrage).

When the sadds (barriers) are constructed near the lower ends of these branches to raise the water level, navigation to and from the sea is impossible from April to August.

Page 7.—Line 18: *For* "**Tripoli**" *read* "**Libia.**"

Page 10.—Barometer.—The graduation of barometric scales in millibars having now been largely introduced, the accompanying diagram is inserted to enable the mariner to convert millibars into inches, and vice versâ.

Page 11.—Line 8: *For* "**Tripoli**" *read* "**Libia.**"

Turkey.—Buoyage system.—The starboard side of a channel is that side which would lie on the starboard hand of a ship approaching from seaward. That side of the channel which would lie on the port hand of a ship approaching the channel is consequently the port side of the channel.

Red conical buoys will be placed on the starboard side, and white can buoys on the port side of a channel or strait.

Page 11 continued.

Small red and white spherical buoys, fitted with staffs, will be placed on shoals which occur in the middle of a channel or strait, and which can be passed on both sides by shipping.

Spherical buoys placed on a shoal lying in the middle of a channel will be furnished, depending on their condition, either with a red cylinder or other topmark.

In the case of a channel or strait which cannot conveniently be buoyed on both sides, a single row of either red or white buoys will be laid down. Some of the buoys forming this row may be conical and others can buoys. In order to enable the buoys inside the channel to be easily seen and distinguished, a beacon buoy will be placed at the entrance of the channel, where the nature of the background renders this necessary; the topmark will be entirely red, and the buoy red or white, according as it lies in the line of buoys marking the starboard or port side of the channel.

In the case of winding channels and inlets containing numerous and extensive shoals, where the fairway for shipping may be considered as divided into a number of disconnected zones, beacon buoys will be placed at the extremities of each zone, in order that the limits may be clearly perceived, and a reliable guide to shipping afforded.

As regards the fairway, both the topmarks and the other parts of the buoys on the starboard side must be painted red. On the port side, the topmarks red and their other parts white. The topmarks of the beacons on the shoals in the fairway, which can be passed on both sides by shipping, must be entirely red, the other parts being painted with horizontal red and white stripes.

The topmarks belonging to one zone will be distinguished from those of other zones by their form. In places of this kind light-buoys and fixed beacons of peculiar colour, and carrying special topmarks, can be used.

Reckoning from the entrance to the channel, the buoys on the starboard side will have odd numbers painted on them in black, and those on the port side even numbers. On the starboard side of a channel or strait a red-coloured staff or pole beacon, or an uncoloured mast beacon, will be placed. On the port side a white-coloured beacon without a staff, or an uncoloured perch beacon (the branched stump of a tree).

On shoals situated outside a channel, spar buoys, beacon buoys, any kind of buoy fitted with a staff, or fixed beacons will be placed on the shoal or in its vicinity. These buoys, with their topmarks, will always be painted red. The fixed beacons will have, as a rule, red topmarks, the remainder of the beacon, as occasion may require, will be painted white or red. Where their position renders it necessary, shoals will in some cases be marked by bell-buoys, light-buoys, or whistle-buoys. If it is only necessary to mark shoals on one side, as in the case of shoals

Page 11 continued.

extending from the shore, beacons either without topmarks or carrying special ones will be used.

Topmarks are used to indicate the direction in which the shoal lies. In the case of exceedingly small shoals, situated either inside or outside the channel, where it is not considered necessary to surround them with buoys, and where shipping can approach close to the beacons, the topmark will be a cylinder of height equal to its diameter. While this topmark may also be carried by a buoy marking a sunken vessel, it may not be used in any other place.

In the case of an extensive shoal, situated inside or outside the channel where it is considered necessary to place buoys, they will carry topmarks as described below: —

On a buoy or beacon on the north side of a shoal	Two conical topmarks, each point upwards.
On a buoy or beacon on the south side of a shoal	Two conical topmarks, each point downwards.
On a buoy or beacon on the east side of a shoal	Two conical topmarks, points away from each other.
On a buoy or beacon on the west side of a shoal	Two conical topmarks, points towards each other.

To indicate the position of a submerged wreck, conical buoys, truncated conical buoys, or cask or barrel buoys will be used; they will be painted green, and have in Turkish the word for "Wreck" written on them in white. These wreck buoys will carry a staff, and, according to their position, will exhibit a cylindrical topmark, or the conical shapes mentioned above.

To mark the position of telegraph cables green spherical buoys are used. On these buoys the word for "Telegraph" or the equivalent for letter "T" will be painted in white in Turkish character.

In order to indicate the limits of quarantine areas, yellow buoys or conical beacons must be used.

In order to denote the limits of areas temporarily closed to shipping, while appropriated for experiments or practice from guns and torpedoes, yellow cask or barrel buoys, fitted with small pennants, will be used.

Page 14.—Line 42: *For* "Tripoli" *read* "Libia."

Page 15.—Line 20: *For* "Tripoli" *read* "Libia."

Line 25: *For* "in Tripoli" *read* "in Libia."

CHAPTER II.

Pages 16-54.—Headings: *For* "Tripoli" *read* "Libia."

Chart 249, Mahedia to Ras Makhabez.

Page 17.—Ras Makhabez.—The beacon has been removed.

Bou Kemesh bay.—The buoys and posts marking the entrance channel have been withdrawn.

Chart 246, Ras Makhabez to Benghazi.

Page 18.—Zuara.—The light, formerly exhibited from the signal mast, has been discontinued.

Plan 248, Harbour of Tripoli.

Page 20.—North channel.—The light-buoy with green light, formerly moored on the northern side of the channel, has been withdrawn.

Page 21.—Harbour works.—The construction of the mole along the reefs north-eastward of Spanish fort has been completed to its full length. The southern end of the southern arm extends to a distance of about 85 yards, northward, of the line of the leading marks for North channel.

Chart 246, Ras Makhabez to Benghazi.

Page 29.—Ras Lorug.—The light has been discontinued.

Plan of Marsa Zafran on 246.

Page 32.—Marsa Zafran.—Lights.—The light formerly exhibited from a position eastward of the ruined fort, and the lights exhibited from the leading beacons, have been discontinued. The leading beacons have been removed.

Buoys.—The two conical mooring buoys have been withdrawn.

Chart 246, Ras Makhabez to Benghazi.

Page 34.—Shoal.—A rocky bank, dangerous to navigation, is reported to exist between Ras al Omja and Ras el Berek, at a distance of from 3 to 4 miles from the shore.

Chart 241, Benghazi to Derna.

Page 38.—Rock.—A 2-fathom rock lies about $6\frac{1}{2}$ cables, eastward, from the southern group of the Hamud rocks.

The anchorage symbol formerly shown on the chart in this position has been expunged.

Page 39.—Bueb bay.—Shoal.—A shoal, with about $2\frac{1}{4}$ fathoms of water over it, but which has not been closely examined, is reported to exist off Zuitana, at a distance of about 3 miles from the shore.

Page 40.—Shoal.—A rocky shoal, about three-quarters of a cable in extent, and with a depth of less than 6 feet over it, is situated about 7 miles, south-westward from Benghazi, and about 3 miles from the shore.

Pages 41 to 45.—*Plan 1978, Benghazi*, referred to in these pages, has been superseded by plan on new edition of chart 241.

Plan of Benghazi on 241.

Page 41.—Line 26: *For* " a conspicuous " *read* " the conspicuous"; *after* " monument " *insert* " mentioned above."

Marsa Juliana.—Depths.—The depths in the entrance channel, as far as abreast of the mole, are now from 14 to 16 feet.

Page 42.—Mole.—The extension of the North mole is completed, and the lighthouse has been moved to its new extremity.

Light.—The light on the head of the mole has an elevation of 35 feet.

Buoy.—The red buoy, marking the mole extension works, has been withdrawn.

Posts.—Various shoals in the port are marked by posts or beacons, for which *see* the plan.

Page 43. — Prohibited anchorage. — Vessels are cautioned not to anchor or fish within the area comprised by two lines drawn in a 315° direction, for a distance of 6 miles, from two points on the high-water line, situated respectively 850 feet, north-eastward, and 1,120 feet, south-westward, from Tahun ta Ria point lighthouse.

Harbour works.—A berth with a depth of about 12 feet has been dredged on the inner side of the mole. Eastward of the Juliana peninsula, a berth has been dredged to a depth of about 12 feet, and there is the same depth in the channel leading to it.

Plan of Derna on 241.

Page 50.—Derna.—Light.—On account of extension works in progress, vessels should keep at a distance of not less than 90 yards from the light on the mole.

Buoys. — The four conical red and white buoys marking the 3-fathom line have all disappeared.

Two buoys mark the entrance to the port, that on the starboard hand is painted white, and that on the port hand, red.

A red mooring buoy has been placed in the inner part of the port.

Page 51.—Pier.—The landing pier is now disused, and the light is no longer exhibited.

Chart 244, Derna to Ras Bulau.

Coast.—A small cove, situated 6 miles, westward, of Ras et Tyn, at the outlet of Wadi Aghik, is known as Marsa Bil Aghik.

The bay southward of Ras et Tyn is known as Marsa Omelgaram.

Page 54. — Coast. — Ras el Din is the name given to the point situated about $3\frac{3}{4}$ miles eastward of Ras el Ghain.

Page 55.—Ras al Milhr is reported to lie one mile further westward than is now shown on the charts. A sandbank extends about one mile from its extremity.

The bay between Ras al Milhr and Port Bardia is known as Marsa Moreisa.

Line 32: *For* " Tripoli " *read* " Libia."

Page 55 continued.

Charts 244, Derna to Ras Bulau, and 374, Ras Bulau to Alexandria.

Coast of Egypt.*—Between the inland plateau, which varies from 300 to 600 feet in height, and the coast there is a nearly continuous strip of loam-covered limestone, and a good deal of this level area is cultivated, and maintains a sedentary population. Though water is scarce, it is not entirely absent, and barley of good quality is grown. The villages are usually at places close to the shore where a break in the coastline makes a safe harbourage for boats and small sailing vessels. The width of this plain varies from a few hundred yards in the western part, to as much as 20 miles in the eastern part as the plateau recedes further from the sea.

Chart 244, Derna to Ras Bulau.

Page 56.—Sidi Barrani (*Lat. 31° 36′ N., Long. 25° 59′ E.*) has a conspicuous coastguard station, and is connected with Marsa Matruh by a motor road.

Spongers cove, situated about one mile, westward, from Ishaila rocks, is also known as Marsa Jerjub.

Pages 57-58.—*Cancel* from line 1 on page 57 to line 18 on page 58, inclusive, and *substitute*:—

Plan 3567, Marsa Matruh. Var. 2° 56′ E.

Marsa Matruh, eastward of Ras Labeit, is an indentation in the coast, $1\frac{6}{10}$ miles long east and west, and 7 cables deep; it is completely sheltered from seaward by a reef and rocks extending $1\frac{1}{2}$ cables, eastward, from Ras Labeit, and by Matruh reef, a line of small islets, rocks, and reefs, upon which the sea breaks heavily, extending half a mile westward from the eastern entrance point, which is known as Matruh point. Several of the rocks of Matruh reef are awash, and on the largest islet is a conspicuous white rock, 10 feet high; there are two boat passages through Matruh reef available for boats only in fine weather.

A conspicuous coastguard fort, with flagstaff, stands on Matruh point, about 4 cables from its extreme.

Depths.—Vessels up to a draught of 15 feet can enter the harbour at all states of the tide.

Western shore.—With the exception of the narrow rocky shelf which fringes Ras Labeit to the westward, the western shore of the Marsa is flat sand, subject to inundation and change, forming the entrance to a large lagoon which extends in a westerly direction for about $2\frac{1}{2}$ miles, with a breadth of about three-quarters of a mile, and carrying an average depth of from 3 to 5 fathoms. This lagoon appears to have been extensively used by the Romans in ancient days as a harbour, numerous ruins, and, in places, remains of wharves and piers being still visible.

* Journal Royal Geographical Society, Feb., 1916.

Pages 57-58 continued. Plan 3567.

The ruins of the ancient town of Matruh, known as Old Matruh, are situated in an oasis, at the western extreme of this lagoon. The entrance to the lagoon has greatly silted up in recent years, and in 1916 it was just possible to get a boat through with 2 feet of water at high water.

Southern shore.—A long low range of sandhills, about 30 feet high, and partially covered by scrub, extends along the southern shore of the Marsa. This low range is backed by an undulating plain, cultivated in parts, which extends to the base of a range of dark, low undulating hills, about 200 to 300 feet high, situated about 4 miles inland.

A conspicuous white mosque, with minaret 114 feet high, stands on the shore sandhills directly south of Ras Labeit. This mosque contains the remains and tomb of the Sheik Sidi el Awam. Four cables eastward of the mosque is a sandhill, 41 feet high, and immediately eastward of this are the numerous buildings of the village of Matruh, and the coastguard buildings.

Harbour.—The eastern end of the Marsa forms the harbour or anchorage, which is protected on the west by a rubble breakwater, extending from the shore for 490 yards in a south-westerly direction, and on the north, by the rocky point, about 60 feet in height, separating the harbour from the sea. The eastern shore of the harbour is flat and sandy bounding the shores of the westernmost of a chain of salt lagoons which extend eastward almost to Ras alem Rum. The southern shore of the harbour is flat and sandy and subject to inundation.

Shoals.—A shoal, extending southward from Matruh reef, occupies the central part of the Marsa. It is studded with rocks, on which are from 2 to 3 feet of water, with from 5 to 7 feet of water between them, the most conspicuous being the Djaafar, Sennusi, and Askeri rocks, which break heavily even in moderate winds.

Presidency rock, with 12 feet over it, lies 80 yards, north-eastward, from the western entrance beacon, and Nury rock, with 5 feet over it, lies 100 yards, north-eastward, from the eastern entrance beacon.

Two cables, south-westward, from the western entrance beacon is an 8-foot rock, marked on its eastern side by No. 1 black conical buoy.

Kingston rock, with 12 feet over it, lies on the southern side of the channel northward of the inner leading beacons, and close southward of No. 5 black conical buoy. Two cables, eastward, of Kingston rock is a reef awash, with some outlying rocks.

Entrance beacons.—The navigable entrance, between the rocks extending eastward from Ras Labeit and Matruh reef, is 100 yards wide.

Pages 57-58 continued. Plan 3567.

Pole beacons, painted red and white, standing on the outer rocks, mark the entrance; that on the eastern side has a red and white disc as topmark, and that on the western side a white triangle.

Entrance leading beacons. — Two pole beacons, each surmounted by a triangle, stand on the western side of the Marsa, the front beacon being a few yards inside the high-water line, and the rear beacon, 1,832 yards from the front beacon, standing on the summit of the low ridge on the south side of the lagoon. These beacons in line 229° leads through the entrance in mid-channel.

Inner leading beacons.—Two pole beacons, painted black and white, stand on the southern shore of the Marsa, about 2 cables eastward of the minaret. These beacons in line 152° lead midway between the shallow banks in the western reach.

Harbour beacon.—A small beacon, with triangular topmark, stands about one cable, southward, of Harbour point.

Channel.—A channel, partly formed by dredging, with a least depth of 15 feet, and a least breadth between the buoys of 80 yards, leads westward and southward of the central shoal to the anchorage eastward of the breakwater.

Buoys.—Eight black conical buoys, numbered 1 to 8 from seaward, mark the western and southern sides of the channel.

Six conical buoys, painted black and white horizontally, mark the eastern and northern sides of the channel.

A red mooring buoy, in 25 feet of water, lies $2\frac{3}{4}$ cables, north-eastward, from the outer end of the breakwater. A small red mooring buoy for the use of lighters lies eastward of Drama point.

Page 58. — Directions. — When approaching the entrance, a vessel should bring the leading beacons in line 229° as soon as they can be distinguished, in order to avoid Presidency and Nury rocks. When Pinnacle rock is seen open southward of the western entrance beacon, steer to pass midway between Nos. 1 buoys. Thence steer for the minaret of the mosque until the inner leading beacons are in line 152° Course should then be steered with these beacons in line until between Nos. 4 buoys, when steer for the beacon on Harbour point, bearing 89°, until between Nos. 7 buoys, when course can be shaped for the harbour entrance. When leaving the line of the inner leading beacons between Nos. 4 buoys, the helm should be put over in good time, in order to avoid Kingston rock and the dangers southward of it.

Anchorage.—The bottom is of mud over sand, and the holding ground is only fair. The best berth is to secure to the mooring buoy with the ship's head West, and a stern anchor laid out. In fine weather, a vessel can anchor, with both anchors, in the deep water $1\frac{1}{2}$ cables eastward of the breakwater, with her stern secured to the mooring buoy.

Page 58 continued. Plan 3567.

Piers. — Vessels discharging cargo can berth alongside lighters which are moored to the north shore of Harbour point, also, alongside the wooden pier west of Drama point, where there is a depth of not less than 18 feet. There is a wooden landing pier eastward of Drama point, and another on the north shore of the harbour for boats communicating with the fort.

Supplies.—Fresh provisions can be obtained in small quantities. Water is scarce.

Population.—The population of the village consists of a few Greeks, who trade chiefly with the Bedouin tribesmen and local herdsmen.

Communications.—There is weekly communication with Alexandria by steamer, also railway and telegraphic communication.

Tides.—Springs rise 1½ feet, neaps 9 inches. During northerly winds the water occasionally banks up as much as 3 feet above the datum of the soundings. This banking up of the water gives a useful indication of the approach of bad weather, and a low water in the harbour is a sign of settled weather.

NOTE.—A new plan of Marsa Matruh is in preparation.

Chart 374, Ras Bulau to Alexandria.

Page 59.—Ras el Kanais.—There is a coastguard post about 2 miles southward of the cape.

Ras el Daba'a (Dhabba).—There is a coastguard watch tower on the cape. The village of Daba'a is on the railway line between Alexandria and Matruh.

Bir Gabrisa (*Lat. 30° 59′ N., Long. 28° 45′ E.*) has a coastguard post. There is a railway station at the village of Sidi abd el Rahman, about 1½ miles distant.

Plan, Damietta mouth, on chart 2630.

Page 86.—Damietta mouth.—When the sadd (barrier) is constructed to raise the water level in this branch, navigation between Damietta and the sea is impossible from April to August.

Chart 2630, Alexandria to Port Said.

Page 87.—*After* line 45 *add*: "The coast is marked by beacons at 2 and 8 miles, respectively, south-eastward from Kawa burun, and 3 miles, south-eastward, from Debeh fort is another beacon."

Page 88.—*After* line 46 *add*: "At 2½ miles further eastward the coast is marked by a red beacon."

Chart 2573, Damietta to El Arish.

Page 98.—Line 24: *For* "270 feet" *read* "198 feet."

CHAPTER III.

Pages 110, 111.—*Plan 1885, Makri harbour*, referred to in these pages, has been superseded by plan on new edition of chart 1886.

CHAPTER V.

Chart 2633, Markab to Ras en Nakura.

Page 168.—Shoal.—A 4-fathom shoal exists on the bank westward of Sheik Jabber, at a distance of $1\frac{1}{4}$ miles from the shore.

APPENDIX V.

List of charts published and withdrawn since the publication in 1915 of the First Edition of Mediterranean Pilot, Vol. V., and which affect this work.

CHARTS PUBLISHED.

241 Plan of Benghazi added.
1886 Plan of Makri harbour added.

CHARTS WITHDRAWN.

1978 Benghazi.
1885 Makri harbour.

INDEX TO NEW NAMES.

The number of the page refers to Mediterranean Pilot, Vol. V., First Edition, 1915.